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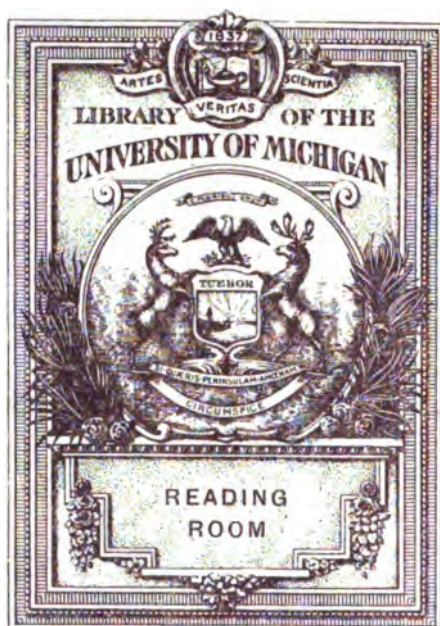
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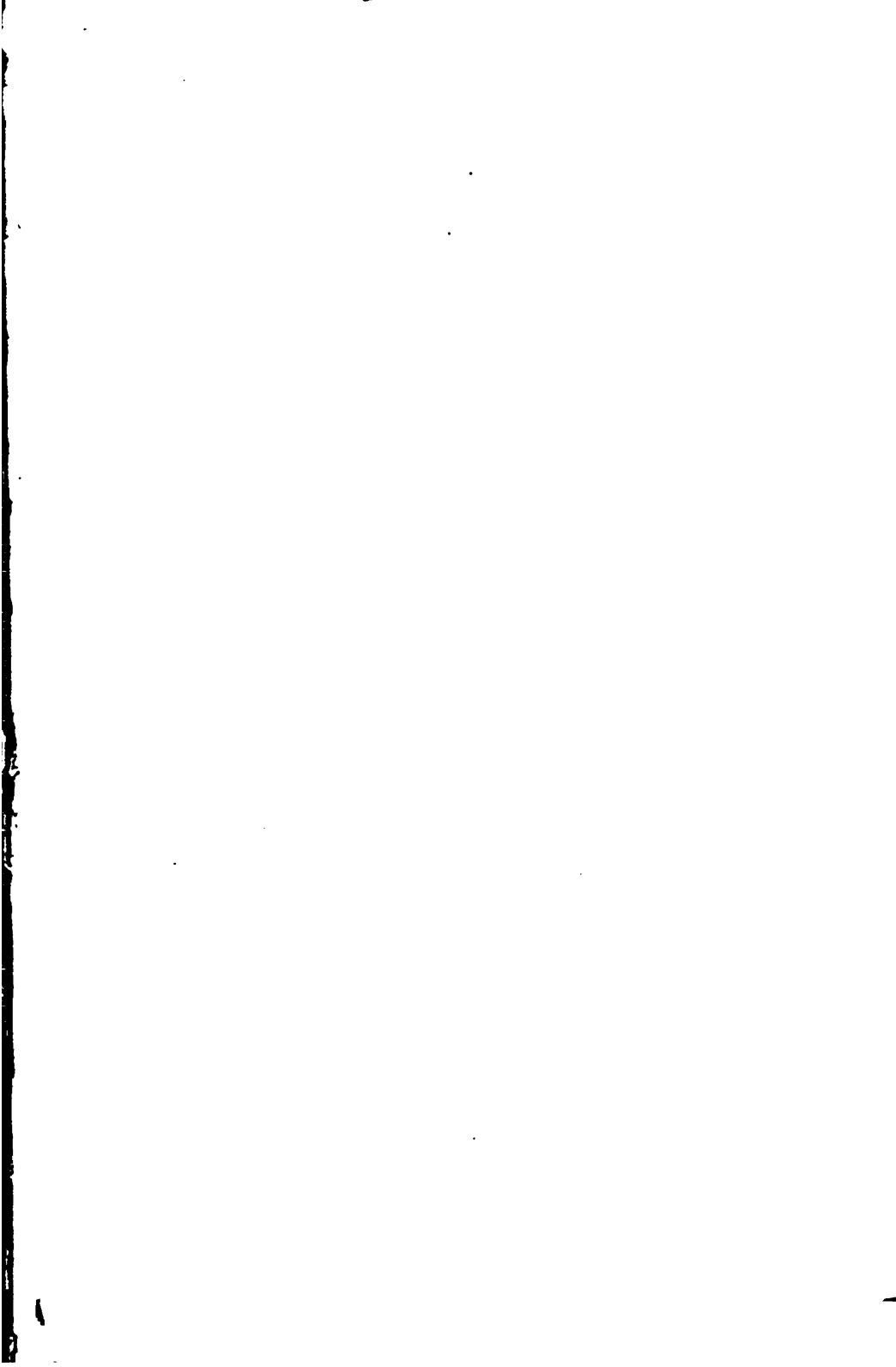
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**THE WORKING OF THE
RAILROADS**

AN ELEMENTARY EXPOSITION OF THE DEVELOPMENT, THE WORKING, AND THE INTERRELATION OF THE DIFFERENT DEPARTMENTS OF RAILROAD ADMINISTRATION

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HENRY HOLT AND COMPANY
NEW YORK

RAILROAD FREIGHT RATES IN RELATION TO THE INDUSTRY AND COMMERCE OF THE UNITED STATES

BY
LOGAN G. McPHERSON

Lecturer on Transportation, Johns Hopkins University,
Author of "The Working of the Railroads"



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HENRY HOLT AND COMPANY
1909

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Published May, 1909

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PREFACE

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Page/Ans 3-9-25 21-12

THROUGHOUT the general discussion of 1905-06 as to additional Federal legislation for the regulation of the railroads became evident the need for a definite, concrete and fairly comprehensive exposition of the effect of the freight rates of the railroads upon the industry and commerce of the United States. In the desire to set forth the prime factors in this relation, the anatomy and physiology as well as the pathology of the freight rate structure, the writer has visited every part of the country, interviewing principal shippers, the representatives of commercial organizations and the officers in charge of the traffic departments of various railroads.

The steps of the development of the freight rate structures have been largely attained through discussions, of which the records have disappeared, and through correspondence no longer in existence. They remain in the memory of the veteran traffic managers who have readily imparted much of the information contained in these pages. Their recollection, however, has confessedly not always been exact as to dates, leaving it possible, in parts of the book, to show only the general sequence of the development.

The mission has been greatly facilitated by the lectureship on transportation which the writer holds at Johns Hopkins University, and by an extended experience in active railroad service. Partial results of this research have been embodied in lectures delivered at Johns Hopkins University, Columbia University, Yale University, the University of Chicago and the University of Wisconsin; in articles that have appeared in the *North American Review*, the *Political Science Quarterly*, *Railway Age*, *Railroad Gazette*, *Railway World*, and newspapers of various cities. These lectures and articles have been freely used in the preparation of this volume.

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CHAPTER I

INTRODUCTORY

As we are told, even in the schoolbooks used by children, our present civilization could not have been attained except through the division of labor. In the typical early community the tailor made the clothes, the carpenter built the house, and the smith fashioned the tools, each with his own hands from material obtained near by. Each exchanged his handiwork for the product of the other and with the farmer for the product of the soil. In time, perhaps, the tailor, the carpenter, the smith, the other artisans of the community, and, likewise, the farmer, enlisted the help of one or more apprentices, or wage workers, as the case might be. Then it was not a simple exchange of the direct handiwork of one workman for the direct handiwork of another. The men employed by each artisan had to be supplied with portions of the products of the others. At a later stage the material used by different crafts was brought from distant places, often passing through more than one process before reaching the artisan who wrought it into its final form.

The development of these processes has resulted in the industry and commerce of to-day. The food, the clothing, the implements, the buildings, of every community are of material that may have been brought from the field or mine or forest within a dozen miles, or it may have been conveyed a thousand or two thousand miles or more. It therefore follows that there must not only be mechanism for carrying raw material from the source of supply to the various places where, through various processes, it is finally wrought into ultimate form, but there must be mechanism for conveying these finished

products to the widespread communities where they are consumed.

Broadly speaking, the processes through which material passes from the source of supply into the finished product are those of industry; and the processes through which the finished product passes into the hands of the consumer are those of commerce. There is, of course, much buying and selling of material as it is transformed from one phase of manufacture to another, and, therefore, the function of the merchant is still prominent in industry, but this is apart from distribution to the final consumer.

Throughout all industry and all commerce the function of transportation is conspicuous. Products may be carried by dray or wagon for short distances from the field, or merchandise of various kinds to and from the factory, the warehouse or the retail store, and certain of the waterways take part in this function; but the overwhelmingly preponderating transportation agency in this country is the railroad. The railroads carry raw material from farm and forest and mine to the places of concentration, to the places of preparatory process, to the places of intermediate process, to the places of final process. They carry products from these places of final process to the warehouses in the great distributing centers, to the storehouses in the smaller cities and towns, to the shops of the retail merchants, and, in no inconsiderable degree, to the homes wherein they are used and consumed.

Entering thus into every process of every industry, and into every process of distribution, the transportation function affects every person who is concerned either in the production or the consumption of any commodity of industry, of any article of commerce. That is, it affects the entire population. The charge for transportation enters into the cost of production of every article; the charge for transportation enters into the cost of distribution of every article.

A survey of the effect which the charges for trans-

portation have upon the various industries and the varied commerce of this country must, therefore, include a study of the extent to which they further or hinder the movement of the materials and the products of industry; of the extent to which they advance or retard the progress of commerce. Those immediately engaged in industry are the producers of raw material—the owners of and workers in the fields, the forests and the mines, the owners of and workers in the factories and the mills; those immediately engaged in distribution are the owners and salesmen of the mills and factories, the wholesale merchants and their employees, the retail merchants and their employees. As every farmer and farm-hand directly or indirectly consumes the products of mill and factory, and every manufacturer and worker in mill and factory consumes the products of the farm, and so on throughout industry and commerce, every producer is a consumer and every consumer is a producer. The workers in the arts and the professions, while not engaged in material production, consume material products.

It is also necessary to consider the effect of the transportation charge upon the maintenance of the railways and upon their capacity for extension and enlargement to meet the needs of the industry and commerce of the future. The railroads must adequately perform their part as an integral factor in the material activities of the nation, and they must receive the consideration and the support which will enable them adequately to perform that part.

As the first subject to be considered is the relation which the railroads bear to the movement of commodities, there must be a clear comprehension of that movement and the directions which it takes.

CHAPTER II

THE CHANNELS OF TRAFFIC

THE colonists who settled on the Atlantic seaboard were dependent for many generations upon the fatherland for all manufactured articles except the crudest handiwork. The commerce which slowly developed was in the products of agriculture taken by wagon or by stage to the seaboard to be sent to Europe by the sailing vessels, which, in return, brought fabrics, firearms, household utensils and even brick and other building material. The more important settlements were naturally, therefore, on the harbors, Boston, New York, Philadelphia, Baltimore, Richmond, Wilmington, Charleston, Savannah. Even until the time of the Revolution there was very little commerce between one colony and another, but the area from which agricultural products were received for export and throughout which manufactures from Europe were distributed increased as the pioneers fought their way into the interior. During later years, as they penetrated beyond the mountains, at places naturally adapted to become bases of supplies, arose clusters of cabins that formed the nuclei of the present cities of Buffalo, Cleveland, Detroit, Milwaukee, and Chicago, on the Lakes; of Pittsburg, Cincinnati, Louisville, St. Louis, St. Paul, and Memphis, on the rivers; Mobile, New Orleans, and Galveston, on the Gulf; of Los Angeles, San Francisco, and Portland, on the Pacific.

The domestic tranquillity and solidarity of interest brought about by the Revolution gave a stimulus to domestic manufacture and to the interchange of products between the colonies. Although this was enhanced by the War of 1812, and it was recognized that there was need of an extension and enlargement of the means of

communication between the Atlantic seaboard and the interior, the situation had not greatly changed within the dozen years that elapsed before the time when experiments were made with the building of roads of rails. The first railroads led from the seaports into the interior for but short distances, but they extended the area tributary to each seaport, bringing products of the soil over greater distances to the seaboard, and furnishing a regular and certain means by which the residents of the interior could obtain the supplies which they did not produce. That is, an early result of the building of the railroads was a furthering of the division of labor, the residents of the towns giving less attention to the growing of food, and the farmers not being obliged to turn their hands to the making of so many things.

The period from 1830 to 1860 was one of contest between the railroads and between the canals which had been built largely by aid of the various States. Toward the close of this era the superior efficiency of the railroads was generally recognized, and the canals, with but few exceptions, gradually lapsed into disuse.

The railroads that had been built westward from Massachusetts Bay extended through Massachusetts and Connecticut to Albany and to New York. Lines from New York had extended to Buffalo; from Philadelphia to Pittsburg; from Baltimore to the Ohio River. By the time of the Civil War certain of these railroads had reached Chicago, St. Louis, and Cincinnati, and from these cities other lines had been built radiating, not only throughout the interior States, but reaching toward the West and South, the Northwest and the Southwest. The lines from the ports on the South Atlantic and on the Gulf had penetrated to junctions at various places in the southern interior. There was direct communication by rail between Chicago and New Orleans, and lines of rails extended from the Gulf toward the interior of Texas. Along these various routes traffic had increased both in volume and in diversity.

The Civil War, interrupting the industry and commerce

of the country in general, naturally brought a cessation in railroad building. Immediately after its close, however, construction was resumed and railroads were rapidly extended. They wound a network over New England, the North Atlantic and the Middle States: they stretched farther into the West, sending out branches that covered the region from Missouri and Kansas to Minnesota and the Dakotas; they reached down into Texas from St. Louis. In 1869 was driven the golden spike that marked the completion of the first through rail route from the Missouri River to the Pacific Coast. The railroads of the States south of the Ohio and east of the Mississippi Rivers had resumed active operation and were also being extended, although less rapidly than in the North.

Every section of the country was thus connected by rail with every other section and the main channels of traffic were then outlined. In the last forty years railroad building east of the Missouri River has been intensive rather than extensive; sections that theretofore were not supplied with railroads have now been traversed by these agencies until it is an exceptional State of which every county is not crossed by one or more lines. Instead of one rail route to the Pacific Coast there are now half a dozen, and cross lines are gradually extending over vast areas of a once barren West that irrigation has coaxed into fertility.

The stimulus to manufacture given by the Revolution naturally made Boston the early industrial center. The commercial currents set in motion by the exchange of the handiwork of the domestic artisans for the products of the soil deepened the traffic channels already grooved by the barter through the seaports of the products of the soil for the manufactures of Europe. A pronounced step in this development occurred many years later when the building of railroads throughout the Ohio and Mississippi Valleys led to grain from those regions being brought to the East in exchange for the diversified manufactures of industrial centers that increased in the North

Atlantic States. This exchange of food products for manufactured products is the primary force that has eroded the traffic channels of to-day. This force, manifested in diverse ways, has led to a multiplying and ramifying of the channels. Foods of various kinds are brought from remote sources of supply to widespread markets. Raw material of one kind may be obtained at the factory's door, while another must be brought from across the continent. As the population has spread throughout the country, the industrial area has extended, certain manufactures tending to segregate at a few centers, while others have become more widely diffused.

Central and southern New England, southern New York, eastern Pennsylvania, and northern New Jersey, are still the principal places of manufacture of the finer fabrics and articles of apparel, of carpets, rugs and various wares, of the smaller tools and more delicate bits of mechanism, and of countless articles of personal use and adornment. From this region this merchandise flows not only to the communities of the New England and North Atlantic States, but throughout the interior, the South, the Northwest, the West and Southwest, and up and down the Pacific Coast. This merchandise goes through Buffalo or Pittsburg to the interior States of Ohio, Indiana, Illinois, and Michigan, and by way of Chicago or St. Louis to the valleys of the Mississippi and the Missouri. It goes over the rail lines that extend from the Northern Atlantic seaports throughout the South and is also carried to this region by the coastwise steamers that connect at the South Atlantic and Gulf ports with the railroads leading from these ports into the interior. This merchandise goes by rail to the ports on Lake Erie, thence by vessel to the head of the Lakes, and thence by rail throughout Minnesota, the Dakotas, Montana and Wyoming; or, it may go to this section over the all-rail routes via Chicago or St. Louis or through Canada. To the region between the Missouri River and the Rocky Mountains that lies to the south of these States this merchandise may go by all-rail routes

via Chicago or St. Louis; or via coastwise vessels to Norfolk, Newport News, Savannah, New Orleans, or Galveston, and thence by rail. To the Pacific Coast this merchandise may go over the rail lines through Canada, by way of St. Paul, or Chicago, or St. Louis, or Memphis; or it may go by vessel to Norfolk, Newport News, Savannah, or New Orleans, or Galveston and thence by rail; or it may go by vessel to Tehuantepec or Colon, thence by rail across Mexico or Panama, and by vessel up the Pacific Coast; or it may go by vessel over the entire route through the Straits of Magellan, or around Cape Horn. This merchandise not only may go from the Atlantic seaboard to these various regions via any one of these routes, but it does go in large volume over every one of them; except that the all-water route around the Cape to the Pacific Coast is falling into disuse.

In reverse direction the grain and grain products of the Mississippi Valley flow throughout the East and Southeast. From the Dakotas and Minnesota they go to the East, either entirely by rail, or across Lake Michigan by car ferry; or via Duluth and vessel to the Lake Erie ports, and thence by way of the railroads or by way of the Erie Canal. From Nebraska, Kansas, Iowa, Missouri, Wisconsin, these products move by way of Chicago or St. Louis; from the region south of Kansas by way of St. Louis, Galveston or Memphis or New Orleans. Livestock and meat products move to the East and the Southeast, over the same all-rail routes as the grain, from the ranches and farms that reach on the north to the Dakotas and on the south to Texas. This does not mean that all of the grain and all of the meat come from this western interior. Wheat is raised in nearly every State, and corn in many of the States of the Union, but in quantities that, except in these surplus grain-growing States in the Mississippi and Missouri Valleys, are usually not more than adequate for home consumption; and so, also, with cattle and hogs.

Those who live on the farms, in the villages, and in

nearly all of the smaller cities and towns, obtain butter, eggs, milk, cheese and chickens from near by. But the growth of the larger cities has compelled their inhabitants to draw upon more remote sources for these foods which, in commercial parlance, are known as dairy products. Eggs are shipped in carloads from as far as Texas and Arkansas on the south and the Dakotas and Minnesota on the north, from Wisconsin, Tennessee and the Middle States to St. Louis, Chicago, Pittsburg, and the populous seaboard. Butter, cheese and chickens come from an area almost as extended. These products, of course, are supplemented by the surplus production of near-by farms. The larger cities draw milk from considerable distances, the milk trains that supply New York starting as far as four hundred and even four hundred and fifty miles from that city.

The concentration of population in the large cities has also necessitated the going far afield for fruits and vegetables, and therefore has led to the production of these edibles on a large scale on truck farms and in orchards. The populous region from Boston to Washington obtains vegetables, not only from near-by gardens, but from great truck farms in western New York, eastern Maryland and southward along the Atlantic Coast to Florida. From the Southeast and from the lands along the Gulf, and even from Utah and California, vegetables and melons are sent in the spring to Pittsburg, Chicago, and St. Louis; while in the autumn this southern region obtains vegetables from Wisconsin, Michigan, and other parts of the North and from California. Akin to this widely originating and widely circulating traffic is that in berries, peaches, apples, and oranges.

Seafood enters largely into the traffic of the railroads. Special fish-trains are run on express time daily from Boston to New York, from New York to Philadelphia; fish- and oyster-trains from Philadelphia and Baltimore to Pittsburg, Cincinnati, and Chicago. Fish is also carried from the ports of the Southern Atlantic States into

the interior, and from New Orleans to St. Louis and Chicago. Special trains with halibut and salmon run directly through from the fisheries in the far Northwest to the Atlantic seaboard.

The great source of supply of the raw material of leather is naturally identical with the cattle-raising region of the West. The hides from the great packing houses and from other places of slaughter throughout the States are sent to the tanneries, of which the greater number are in the East, although a few in recent years have been built in the Middle West and in California. The greater portion of our wool is clipped from the sheep that graze to the east of the Rocky Mountains, but large quantities also come from Wyoming, Utah, Idaho, Oregon, Nevada, and California. It is sent to scouring and carding mills in the East and woven in the looms of the North Atlantic seaboard.

Seventy-five per cent. or more of the cotton,—the raw material that forms the basis of by far the greater part of the clothing worn by the men, the women, and the children of every civilized nation,—is grown in the States of the South. It moves from the plantations by rail to the mills of Alabama, Georgia, and the Carolinas, to the mills of the North Atlantic seaboard, and through the ports of the South Atlantic and the Gulf also to the markets of New England and to those of Europe. From Texas and Oklahoma quantities are shipped as well to the Pacific Coast and to the Orient.

Conspicuous channels of traffic are those of iron ore from the mines along Lake Superior by lake vessel to the furnaces near Chicago; and by lake vessel to the ports of Lake Erie, whence it is carried by rail to the furnaces of southern and eastern Ohio, northern West Virginia, Pennsylvania and western New York. The pig-iron into which the ore is converted at these furnaces is taken to adjacent mills, where it is transformed into rails, beams, and angles that go to all parts of the United States, and into iron and steel ingots, blooms,

bars, billets, and sheets that are manufactured into machinery, the smaller tools and countless devices. In Colorado are iron and steel mills that obtain ore from the Wyoming and Lake Superior mines, their products finding markets principally in the West. Mills in Alabama utilize the ores and coal of the South in the fashioning of products that penetrate the South and even to the north of the Ohio River.

Before the invention of the modern blast furnace and of the processes that have so radically cheapened the manufacture of steel, wood was, even to a greater degree than at present, an indispensable and all-pervading substance of general use. As the forests of New England and the East were cut away, this region was supplied with lumber that was brought down the Lakes and from Canada to Buffalo. Then the furniture factories migrated to the vicinity of the Michigan forests, and factories for the manufacture of wagons and other vehicles, agricultural implements, and the various kinds of wood-ware, sprang up in Ohio, Indiana, and Illinois, which remain to-day the principal seats of this manufacture, whence these products radiate throughout the entire country. Michigan is still the leading center for the manufacture of the finer furniture, but excellent grades are made in Chicago, St. Louis, and other places in these interior States, and furniture factories are prospering in the Carolinas and other parts of the South. The lumber used in the Middle States is, however, no longer secured from adjacent forests, for they have been cut down and wasted by flood and fire. Yellow pine is now obtained from the South and the Southwest; pine, fir, and hemlock from California and the far Northwest between the Rocky Mountains and the Pacific Ocean.

Other commodities that are conspicuous in transportation have various sources of origin and radiate through divers channels to places of need.

From the Rocky Mountains,—from Utah and Nevada, Oregon, and New Mexico,—from the northern to the

southern national boundary, come the greater portion of the lead, copper, and silver that are wrought into the familiar forms of daily use.

Material, other than iron and steel, that is used in building and other heavy construction is secured ordinarily in the vicinity of the various places of use. There are brick kilns and lime and cement kilns adjacent to every large city. The finer kinds of brick and of cement, however, are marketed within radii that extend for hundreds of miles from the places of manufacture, moving, for example, from the Missouri River even to the Pacific Coast.

What the age of electricity may yet have in store no one can tell, but everyone knows that steam has been the source of the power most used by man during the past one hundred years, and that it is coal that has generated steam. The abounding prosperity of the United States is due to no other one cause so much as to its plentiful supply of coal. Hundreds of thousands of acres of this fuel underlie the lands on either side of the Appalachian range almost continuously from the southern borders of New York to central Alabama. There are coal fields in eastern and southern Ohio, central Michigan, southern Indiana, central and southern Illinois, in parts of Kentucky, Tennessee, Alabama, Iowa, Missouri, Kansas, Oklahoma, Washington, Colorado, Wyoming, Utah, Arizona, and New Mexico. There are but few cities of prime importance east of the Missouri River that are not within two or three hundred miles of a coal field. Many of them have coal mines at their portals, and a great many have the choice of coal of different grades from different fields.

Although this oncoming era of electricity has largely displaced oil as an illuminant in practically all of the cities and many of the towns, there are still countless thousands of homes in these cities and towns, as well as in the villages and on the farms, in which the day is prolonged by the burning of the petroleum-saturated wick. Thousands of gallons of petroleum oil are used

daily to lubricate valve and gear and journal, and it serves many other purposes in the industries and in the arts. Crude oil, that is, the mineral, as it flows from the well, is found in western Pennsylvania, Virginia, and Ohio, in Kansas, Oklahoma, and Texas. It is transported principally through underground pipes to the refineries, whence it is distributed by rail.

This catalogue-like array gives but a broad indication of where the principal products of general use and consumption have their origin, and whither they are taken. There has been no word as to coffee, which is imported through San Francisco, New Orleans, and New York, and thence distributed throughout the United States; of cane sugar, which likewise radiates chiefly from San Francisco, New Orleans, and New York; of beet sugar, which is distributed from Colorado, California, Utah, and Idaho throughout the Missouri Valley; of rice, which in largest measure now comes from the lowlands of Texas and Louisiana. From the vicinity of every truck farm canned fruits and vegetables flow to wide markets. From Virginia, the Carolinas, Kentucky, and Tennessee, as well as from parts of Pennsylvania and Wisconsin, tobacco is sent, not only throughout the United States, but over all the world.

To emphasize a most wonderful achievement mention has been reserved to the last of the flow of deciduous fruits, of citrus fruits, and of dried and canned fruits, from California. Train-loads of peaches, apples, pears, and plums, oranges and lemons, go from the orchards, fields and groves of this rare land of fruits and flowers to distributing centers throughout the country, whence they find their way into every nook and corner of the United States.

This summary gives no adequate idea of the actual handling of two million freight cars that are in service day in and day out; of the tens of thousands of freight trains that are moving by day and by night, carrying foodstuffs to markets, material to mills and factories, and finished products to warehouses and retail dealers. This

is the function of the railroad. Upon its successful performance depends the material welfare of the country, and its successful performance in turn rests upon the prompt and efficient conduct of the processes of agriculture, of industry, and commerce, to which some attention must now be given.

CHAPTER III

THE PREPARATION OF FOODSTUFFS

INASMUCH as over one-half of the industrial and commercial energy of the civilized world is expended in the provision and preparation of food, reference is here made to various phases of the food supply by way of introduction to the service performed by the transportation agencies, the processes of production and the processes of distribution being closely interwoven.

Bread is the staff of life, and, therefore, the grains doubtless are entitled to first consideration. It is the wheat-grain that contains starch and gluten, the nutritious elements that are ground into flour. The larger and the more numerous the grains on the stalk of wheat and the more abundant the stalks to the acre, the more valuable the farmer's crop. Expert wheat-growers take the trouble to find the individual plants that yield the largest and heaviest grains and use these for seed. In the agricultural colleges and schools of the West new varieties are being bred by the cross-fertilization of the wheat blossoms. This delicate operation consists in the careful removal of the stamens from the wheat flower and the dusting or brushing of the pollen from another plant upon its pistils. Durum wheat, a variety with a hard grain that grows in the hot, dry regions of Russia, has been introduced into this country, making productive the semi-arid belt to the east of the Rocky Mountains. It is especially adapted to the manufacture of macaroni, of which there is a growing consumption, and is largely exported. Both with oats and with barley experiments have also been made in cross-fertilization.

Although the corn crop is more important than that of wheat, less than twenty-five per cent. of the corn is shipped out of the county where it is grown; that is, it is not shipped out as corn: transformed into beef and

pork it goes to the ends of the earth. The quality of corn has also been improved by selection. The yield has been increased, the stalks and roots strengthened. It is not the tallest and the most beautiful stalks that produce the best grains: the sturdy stalks of medium height better support the ears and give them more nutrition.

The development in the physical handling of the grains is especially marked by the advanced use of machinery. On the largest western farms, some of which are thousands of acres in extent, the planting of grain is by plows and drills driven by steam, the harvesting by steam reapers and threshers. From the threshers the wheat falls into wagons, which take it to the railroad station, where it is loaded into cars that take it to the great elevators at such primary centers as Omaha, Duluth, Chicago, Kansas City, and St. Louis. At some stage of its transportation grain destined for the table is milled. That is, wheat is ground into flour, corn into cornmeal, and other grains pass through similar processes, which become the more complicated in the case of breakfast foods and kindred preparations. Many of the modern flour mills have a capacity of a million barrels of flour a year, working with machinery so perfected that the wheat is not touched by hand from the time it is placed in conveyors, which take it to the top of the mill and start it through the first set of rollers, until, after six alternate grindings and boltings, the flour drops into sacks or barrels. The grain of this country is usually transported in bulk; that is, it is loaded directly into cars and vessels without being enclosed in sacks or wrappings.

The great packing houses of the Middle West are the sources through which is obtained the greater portion of the meat that finds its way to the tables of this meat-eating nation. Beeves can maintain a livelihood without other food than that gotten by grazing, but to be properly fattened for market they need careful attention. This accounts for the fact that cattle by the thousands, after they have grown beyond calfhood on the Texas ranches, are transported to New Mexico, Colorado, Kansas, Ne-

braska, and even to Wyoming and the Dakotas, where they are fed on a mixture of corn, oats, alfalfa, and cottonseed. With the development of Texas, however, this end is accomplished on its farms to a greater degree than before, and of late years packing houses have been established within the State. Cattle are also sent by the thousands to be fattened on corn in the "feed lots" of the corn belt, and to the towns near the oil mills where they are nourished on cottonseed products, undue rations of which sometimes make them blind. The quality of beef has been improved by feeding and caring for the cattle on the farms and ranches during the winter instead of allowing them to run wild as formerly, and both by selection and breeding has been developed to a degree of juiciness and of tenderness unknown not many decades ago.

The transition in the source of the beef supply, that was first marked by the herds of the western grazing grounds supplanting the cattle raised by farmers and sold to the local butcher, would seem to be on the verge of a new phase. The increasing population of the country demands larger crops of grain, and, therefore, vast areas, from Texas to the Dakotas, that have been used as grazing grounds, are being cut up into farms, the cultivation of grain being more profitable than the raising of cattle. This means that the unoccupied ranches of Mexico will be used for grazing to a greater degree, and also a certain reversion to the old-time practice of every farmer raising a few cattle—a hundred or more—as many as he can properly feed and take care of. Indeed, the methods of feeding have been so developed and are so widely understood that even now cattle from Texas are sent for feeding, not only to the areas first named, but to farms as far east as Ohio, where they are fattened and shipped to the packing houses. The advancing cost of corn and other grains is so increasing the cost of feeding that it will be necessary to devise a cheaper diet as well as to utilize new grazing land. Attempts are now being made to restrict the quantity of corn in the

beeves' ration, its exclusive or excessive use being injurious to the health of the animal and to the quality of the meat. The farmers of southwestern Virginia have for many years grown and fattened entirely upon grass some of the choicest beeves known to the market, and the Blue Grass region of Kentucky is almost as famous for the quality of its cattle as for its horses.

Although we hear far more of beef, it is really the hog that supplies the greater quantity of the meat eaten in this country, either as plain pork or as bacon, ham, or sausage. There is scarcely a farmer, from Maine to California, or from St. Paul to New Orleans, who does not raise hogs as a by-product. They are produced in large numbers in Kentucky, Texas, and Ohio, but the greatest density of the cultivation is in the State of Iowa and the immediately contiguous portions of Illinois, Wisconsin, Nebraska, Kansas, and Missouri. Here the raising of the hog is becoming as much of a science as the raising of a steer. His food is practically the same mixture and as carefully prepared. This greater care has been forced partly by the necessity for avoiding cholera and tuberculosis, which appears to be very prevalent when hogs are allowed to feed on the refuse of the stables and barnyards. It has also been necessary to improve the meat of the hog in order to extend the market for bacon. As it is now, England does not regard American bacon as the finest which reaches her market, paying far lower prices for it than for that received from Ireland and Denmark. It has been ascertained that an exclusive diet of corn is as bad for the hog as for the steer. A regimen of peas, oats, and barley, or of corn mixed with skimmed milk, produces better bacon. This is marked in the products of the San Luis Valley of California, and in many regions of the South where an abundance of vegetables, especially of peas, afford a proper diet. The famous Smithfield hams of Virginia are said to owe their superior quality to the fact that the hogs are fattened on peanuts.

The sheep of the United States are descended from a

flock of Spanish merinos brought to New Mexico in 1540, and the sheep of the Western States are still of the merino type, while those grown east of the Mississippi River, especially in Ohio and Michigan, are of the English breeds which have been imported within the last twenty-five or thirty years. The greatest number of these animals, however, at this time come from the western grazing grounds which they share with the cattle. Like calves, the lambs are permitted to roam on the pastures, principally between New Mexico and Colorado, Utah and Idaho, until they have attained a degree of strength, when they are removed to the feeding grounds in Colorado, Nebraska, and Kansas, where they are nourished with a mixture of alfalfa and refuse of the beet. Then they are taken to the Missouri River to be fattened with hay, prior to consignment to packing houses.

In the great packing houses the carcasses of cattle, hogs, and sheep are whirled through different departments by machinery which disembowels, washes, skins, and cuts them up for the market. When the meat is intended for sale by the butchers, each carcass is cut into two pieces, the "sides," which are hung in the railroad cars. Ham, bacon, and other products are packed in barrels or boxes.

Of our edible fowl, the wild duck and the wild turkey are indigenous to North America, the name of the latter being due to the fact that Cortez and his followers thought they had rounded India and reached Turkey in Asia. The chicken, the universal fowl, had to be imported. The first settlers brought small flocks which, it is to be presumed, multiplied upon the face of the earth, although their descendants have faded into obscurity. When the Brahmas were brought from the Brahmaputra region in India, the Cochins and Langshans from China, the Leghorn from Italy, the Minorcas from the Island of Minorca, the Black Spanish and Andalusians from Spain, the bird with the indefinite name attained high standing in the United States. The barred Ply-

mouth Rock is the most popular breed in this country, being prized both for its flesh and its eggs. Great attention of late years has been paid to the feeding of chickens; an improved method being to scatter a part of their food in straw or hay so that they will have to scratch for it,—exercise being as good for them as for the other bipeds that do not wear feathers.

In the West, speaking generally, no particular care is given to the feeding and raising of chickens; they are simply allowed to grow. The great packing houses tried in vain to enlist the interest of the farmers in improved methods, and finally were obliged to establish poultry fattening stations where they prepare for market chickens bought from the farmers. These are the choice fowl which, in exception to American poultry in general, can be marketed abroad. The truth is, that although each of the varieties has been developed by breeding and selection until everyone of them is superior to the fowl of the same family in the country of its ancestry, America is not, as yet, in the front rank as a producer of table poultry. The statement of King Edward's poulterer that our best hotels tolerate poultry which would not be accepted in the establishments of epicurean resort in Europe is quite correct.

As a rule the poultry of the market has been killed and dressed by the packing houses which buy it from the farmer, who no longer kills and dresses it himself,—a conspicuous exception being in southern New Jersey, where the old custom of farm preparation still prevails. From the great ranches of Texas, where they are raised by the thousands, turkeys are often driven like cattle to the marketing centers, whence they are taken to the packing houses.

Chickens, developed for egg production, are carefully selected from the broods of mothers who lay the largest eggs in greatest numbers, a device having been invented that records the weight and measurement of each egg laid by each hen. Foods and methods of feeding have been devised for the production of the richest colored

yolks. These developed methods are, however, not generally followed by the farmer, who, moreover, is not always careful to collect eggs promptly. Often they remain in the nests for several days, sometimes for a week or more, and when gathered are well on the way to decay, although they may pass the test at the primary markets. In England, where the henneries are not so widely distributed, each egg is stamped, under the co-operative system adopted by the British producers, with the number of the farmer and the date received from him. It is thus made possible to trace bad eggs to their sources and repeated carelessness is punished by expulsion from the association. A comparatively recent development is the practice of certain large dealers to remove the shells from the eggs, freeze the whites and yolks together, or separately, in cans of one or more gallons, which they keep frozen to be furnished to such bakeries, hotels, and restaurants as may care to buy them for cooking purposes. Eggs are probably as little amenable to handling by machinery as anything imaginable, but still there are mechanical devices for testing their quality. They are packed for shipment in light wooden cases, cross lined with pasteboard so that there is an apartment for each egg.

The butter on the tables of the residents of the larger cities is not now made by the farmer's wife or daughter in the dairy on the farm. In the dairy States a creamery receives the milk from the surrounding farms, and makes butter of uniform grades under modern conditions. The cream is now removed from milk by a machine called a "separator"; butter is churned and worked into prints by machinery. There is the farmers' co-operative creamery, the creamery owned by an individual, and the large corporate creamery, the industry having reached such a development that one factory often produces fifty thousand to seventy-five thousand pounds of butter in one day. Sometimes the cream is taken from the milk at the dairy and the skimmed milk returned to the farmer; sometimes the cream alone is delivered by the farmer.

The raising of fruits and vegetables was once a part of farming in general. The origin of market gardening, the raising of garden truck on small tracts for sale, cannot be traced. It probably arose in the vicinity of each city with the growth of the population of that city. Truck farming, the exclusive raising of the smaller fruits and vegetables on large areas, became conspicuous not more than twenty-five or thirty years ago. It followed the demand of the enormously increasing population of the great centers for such food, and was made possible by the coincident development of transportation. The first truck farm region to become conspicuous was that near Norfolk, Virginia, from which the first shipments by rail were made in 1885. Truck farming on a large scale has developed in western New York, on Long Island, in New Jersey, on the eastern shore of Maryland, and Virginia, and the extension of the industry has been made picturesque by its expansive inauguration along the Atlantic Coast from Florida northward through the Carolinas. Of recent years the southern portions of Alabama, Mississippi, and Louisiana, and eastern Texas have been devoted to this purpose. Potatoes and cabbage are not grown exclusively on truck farms, but in many States are rotated on the farms with corn, oats, wheat, and clover.

The seed for onions, lima beans, and many other annuals, is now produced principally in California on seed farms in the irrigation land where the growers can better control the elements than where the weather is spasmodic. Operators of the great truck farms in all parts of the country draw upon these Californian farms for seed.

The principal tree fruits of the United States, with the exception of the native plum, are descendants of European varieties, seedlings having been grown by the early settlers by the thousands. Thus, all of our multiple kinds of apple trees trace their pedigree back to the European wild apple. The American varieties have resulted more through accident than design, a seedling

here and there developing a juicier fruit or a better flavor which, by careful culture, has been preserved until it has become a fixed type. It was found, for instance, in an early year of the nineteenth century, that a particular apple tree on the farm of Colonel Loami Baldwin, in Massachusetts, yielded unusually palatable apples. Scions cut from that tree and its descendants have been grafted so widely that the Baldwin apple is produced almost wherever there is an apple orchard. Throughout the northern United States this designation of the Baldwin apple, as that of other varieties, does not, however, mean the same thing at all times and in all places. Apples are grown very generally along the Atlantic seaboard from Maine to North Carolina, Georgia, Alabama, and throughout the entire region extending from the Lakes southwestward and westward to the Arkansas and the Missouri Rivers. The production of the States of Arkansas and Missouri has in recent years become conspicuous, several of the counties having five hundred thousand trees and over. The finest and most carefully handled apples come from the far Northwest,—from Washington, Oregon, Colorado, and California. These, although they seem to be of widely different origin, have been developed from scions transplanted from the orchards of the East. The Oregon Spitzenburg is the Spitzenburg of Esopus on the Hudson, and the Newtown Pippin of the Northwest is the Newtown Pippin of Long Island's colonial days. The drier air of the Rocky Mountain region and the far Northwest develops a firm texture in the fruit, and the growers of these regions take unusual pains to keep the trees free from fungi and insects. The result is that the choicest grades of these apples bring inordinate prices. Shipments are made to the Russian nobility through Vladivostock, to the "crowned heads of Europe," and they are sought by the wealthy of all lands. These apples have brought, by the box at the orchard, as much as fifteen cents apiece, which is equivalent to a retail price in New York of from twenty-five to thirty cents. It is not at all necessary, however, to pay any such price

for excellent apples of delicious flavor. Even Spitzenburgs and the Newtown Pippins often retail from the fruit stands at five cents each, and superior grades of various kinds can be purchased by the quantity for much less. Throughout the summer of 1900 there was a continuous exhibit of American apples at the Paris Exposition. Since that time the European demand has steadily increased and has frequently exceeded the supply. In Great Britain, as on the Continent, however, American apples find competition late in the spring with the apples of Tasmania and New Zealand.

Although the peach originated in China, was taken to Western Asia and to Europe, whence it was brought to the United States, it is significant that the Chinese government is obtaining from this country seedlings of peaches and other fruits to investigate the possibility of their propagation in China. Anyone who has visited a chop suey restaurant knows the difference between the little wizened peach of China and the luscious product of our home orchards. Peaches are not nearly as hardy as apples, and do not grow under as great a variety of conditions of soil and climate. They ripen in the Georgia and Texas orchards in June and July; come later from Arkansas, Missouri, Maryland, Delaware and New Jersey; in the early autumn from the mountains of West Virginia, from New York State, and Michigan; and very fine peaches are obtained from California. Peaches in appreciable quantities are also now received in New York from South Africa, where they ripen during what is our winter.

Our choicer varieties of pears, such as the Bartlett and Flemish Beauty, are mostly of European origin, though some of the very best in quality, such as the Seckel and the Sheldon, have been developed in this country from the European stock. More recently another type has been introduced from China and Japan. Pears grow in about the same localities as peaches.

The plum is an own cousin to the peach, but the most of its several species are much hardier. It grows

throughout the temperate belt, and has attained high development on the Pacific Coast. Here certain varieties of the European species are manufactured into prunes that have gained the ascendancy in the markets of this country and are largely exported.

The grape of our eastern vineyards is conspicuously a fruit for whose successful development the American growers are little indebted to Europe. Although, of course, the grape was known to the Hebrews and the Egyptians, the discoverers of America found it on this continent. There was in later years a determined effort to supplant the native with the European grape, but this failed utterly, our grapes of to-day being descendants of the early American type that triumphed over the European varieties through sheer fitness. The fruit was originally of inferior quality,—widely different from the Catawba, the Concord, the Delaware, and the Niagara grape of to-day, all of which differ from the grapes of Europe. These statements, however, apply only to the grapes that are grown east of the Rocky Mountains. In California the European grape found a congenial home, and its culture has attained marked success.

The familiar pictures of the darky and the watermelon indicate no recently acquired fondness of the colored race for the refreshing fruit, for we are indebted to Africa for both the fruit and the race, and they have both spread pretty thoroughly over the United States. A generation or so ago we ate muskmelons for two or three months of the summer; now we have the cantaloup in abundance from April until October. It comes from Florida and California from April until July, from Texas, Georgia, and the Carolinas, during June and July, from Idaho, Utah, and Colorado from the middle of July to the middle of October. A well-known and highly prized variety is the Rocky Ford melon, which comes from Colorado, beginning the latter part of August and continuing until frost. The Rocky Ford is simply the old Netted Gem melon, which was first planted in the Rocky Ford region fifteen or twenty years ago by settlers who wanted to see

if melons for their needs could not be raised at home: the soil and climate did the rest. The popularity of the Rocky Ford is now such that Georgia growers go to Colorado for the seed. As the melon has to be annually planted afresh, and in Georgia will retain the Rocky Ford flavor and consistency for but one generation, it is necessary to obtain the seed anew each year. Therefore, in Colorado, acres and acres are planted for the seed, the melons being fed to hogs and cattle. One acre will produce melons yielding two hundred pounds of seed, and it is not uncommon for one Georgia buyer to take half a ton of seed at a time. As a pound of seed will plant an acre, such a purchase provides seed for one thousand acres. In certain regions of Canada these delicious melons are literally hand raised and milk fed, an incision being made in the stem, during the period of growth, into which milk is injected.

The citrus fruits are not native to the United States. It has not been more than thirty or forty years since practically all of the oranges used in this country came from the shores of the Mediterranean. The orange is grown with complete success in Florida, where it was probably brought by the early Spanish explorers, and in California, where it was likely introduced by the missionaries. The oranges of southern Florida are the sweetest, but the crop of California now largely supplies the market, the navel orange, which had its origin in some young trees brought under the auspices of the Department of Agriculture from Bahia, Brazil, about 1870, now furnishing from eighty-five to ninety per cent. of the annual consumption.

The lemon has been propagated from trees obtained from Sicily. It is now produced in California by the hundreds of thousands of dozens per annum, and is apparently destined to drive the Sicilian lemon from the American market. The European fruit is still received in quantities at the Atlantic seaports and the dealers of these cities sell it in the interior without a great deal of effort as far as the Alleghany Mountains. The Cali-

fornian lemons have the entire field as far east as the Mississippi River. In that portion of the Mississippi Valley which lies between the river and the Alleghany Mountains the citric cousins are at bitter warfare.

Everyone knows that things that our grandmothers used to put in cans and jars for winter use are now preserved by the large canning establishments, some of which own farms of from five thousand to eight thousand acres. The canned products embrace tomatoes, beets, string beans, lima beans, corn, spinach, a dozen varieties of peas, squash, asparagus, dandelion, raspberries, strawberries, blackberries, huckleberries, pineapples, pears, plums, apples, figs, quinces, gumbo, and a combination of gumbo and tomato. The canned goods, however, that enter most largely into consumption are tomatoes, corn, and peas. There are great canneries in Indiana, Ohio, and Illinois, in Delaware, Maryland, and New Jersey, in Connecticut, New York, and Massachusetts. Corn is also canned in Maine, Wisconsin, Michigan, and Kansas. The canneries of California annually send canned fruits and vegetables in greater volume and of great variety throughout the country.

There are other articles of food, nuts, spices, and tea, to specify no further, consumed by thousands of tons every year. But it is the grains, the meats, the fruits, and vegetables that form the major portion of the diet of every person of this country who has passed infancy. Every day of the year they are in movement, in hundreds of thousands of freight cars, from the fields to the elevator, the pasture to the packing house, the truck farm and the orchard to the produce house.

CHAPTER IV

THE DISTRIBUTION OF FOODSTUFFS

It is evident that if everything that serves as food were produced in the locality where it is consumed the transfer from the producer to the consumer would be an easy matter, especially if the production were all the year round in the quantities desired from day to day by the consumers. This condition is approximated in the villages where the dairyman drives his wagon in from the farm each morning and around to the houses of his customers, leaving with each the milk for the daily need.

When the place of production is remote from the place of consumption the producer cannot sell in person to the consumer, and this is clearly all the more out of the question when the production is on a very large scale, sufficing for the needs of a multitude of consumers. Even if the production were in the same locality with the consumption, but were restricted to a brief period, the consumption would either be restricted to that period, or either the purchaser or the consumer or some intermediary agency would have to store the food during the always limited period of production to be disposed of during the more extended period of consumption. Where the consumption of the product is so vast that one intermediary cannot know all the consumers and their desires, there is necessarily a number of secondary agencies, each in a position to know and to provide for the wants of a limited number of consumers. That is, in the case of production on a large scale in a region remote from the place of consumption on a large scale, there must be a wholesale receiver of the product and retail distributors who obtain their stocks from him.

Fruits and vegetables that do not quickly perish, such as potatoes, cabbage, and apples, were formerly consigned

by the growers to dealers at the great market centers, who sold them and remitted the proceeds of the sales to the growers, charging commission for the service. Sale on commission, however, has been subject to such abuses that it is becoming more and more the custom for these products to be sold outright on the farm or at the shipping station to the large dealers. The apple industry, for example, has become so concentrated that a dealer may directly own orchards in each of the great apple-growing regions, and may contract for the entire crops of many other orchards to which he sends his own employees to pick and pack the fruit.

Not only because of the exigencies of the markets, but in large measure because of the evils of the spirit which man has not entirely outgrown, the disposition of the quickly perishable fruits and vegetables under the commission system has been especially pernicious. Growers distant from the markets have not always hesitated to include products of inferior quality and not of the highest degree of soundness in their shipments to the dealers. The commission man remote from the farmer, who had no means of inspecting his methods, would sometimes report to the farmer that his shipment had arrived in bad condition and unmarketable, and perhaps even ask him to remit for the freight charges. There have been instances in which the commission dealer has done this, notwithstanding the fact that he had sold the consignment at good prices. He has also been accused of selling consignments to himself and thus turning the profits of a good market to his own pockets. These evils still exist, but they have been greatly diminished.

In that they must be promptly disposed of, the producer of quickly perishable fruits and vegetables who is distant from the markets is under another disadvantage: the vagaries of the sun and the rain sometimes delay the ripening of his crop until it comes strongly into competition with the crops of other regions and a glut ensues in the markets. A glut is also often caused by the hasty consignment of superabundant shipments to a de-

nuded market. If shipment has been on consignment to a commission merchant the loss falls on the grower. Better adjustment is being reached through two causes: the development of means of preserving the products for longer periods; the formation of associations of growers having similar shipping and marketing interests, and the appointment of representatives on behalf of such associations to look after these interests of their members.

The most efficient of these organizations is the California Fruit Growers' Exchange, representing the citrus fruit producers of California. There is a manager in Los Angeles and an agent in each of the large cities of the United States. The manager receives reports from the local exchanges and packing houses of the quantities of fruit available for shipment, and from the agents telegraphic reports of the prices in various markets, the stock on hand, and the extent of the demand. The manager is thereby enabled to direct shipments to the best advantage, and to this end is permitted by the railroads to divert shipments while en route in accordance with the telegrams showing the requirements of the markets. The agents in the various cities inspect the shipments upon receipt and oversee their disposition.

There are associations, in greater or lesser degree resembling this organization, in the Georgia fruit district, in the Norfolk truck region, and in other localities of great production. Their formation, however, has been retarded. The grower does not like to have the details of his business and the names of his customers disclosed to his neighbor and competitor. If he can now and then, by individual dickering, get a somewhat better price than his neighbor, he may transgress his loyalty to the association even at the risk of losing the higher average price obtainable through its services.

The development of truck farming on a large scale in regions remote from the markets compels transportation facilities through which the truck products, even the quickly perishable, may be transported from the farms to the markets. The retention of perishable food products,

in order that they may be available over extended periods, necessitates storage facilities by means of which decay is arrested.

The transportation mechanism that has made possible the shipment over great distances, and the storage mechanism that makes possible this retention for prolonged periods, are practically the same device. In connection with transportation it is designated as refrigeration; in connection with preservation in warehouses it is known as cold storage. Organic matter quickly decays if allowed to remain without special attention in an ordinary atmosphere. The decay is hastened if the exhalations from the product are not withdrawn from the compartment; meats, fruits, and vegetables, like the living body, all needing fresh air to keep them from suffocating. If such products as fruits and vegetables are warm when packed they part with their heat but slowly; the ripening processes proceed with undue rapidity, and the result is premature decay. The knowledge of this led to the leaving of holes in barrels and apertures in boxes, and to the provision by railroad companies of ventilator cars. The early types of these were simply box cars with slats instead of boards around the upper sides.

The first refrigerator car was placed in service in 1868. It had galvanized iron tanks so arranged along the sides that they could be refilled from the top with a freezing mixture of ice and salt. In this car shipments were made of strawberries and of peaches which remained in sound condition during ten days in transit. A successful consignment of dressed beef made to Boston in this car in September, 1869, is credited with being the beginning of the great industry. Various types of refrigerator cars were devised, and in 1887 began the through shipment of fresh fruits and vegetables from starting point to destination in the same refrigerator car, which was iced as often as necessary.

The system of transportation under refrigeration quickly developed. Inasmuch as the need for such trans-

portation from any truck or fruit region is limited to the brief period during which the crop ripens and is gathered, very few railroads have found it profitable to include refrigerator cars in their equipment. When required they are obtained from the private car companies, any one of which may own hundreds or thousands of these cars, sending them to this region in the spring, to that region in the summer, to another in the autumn, and likely to California or Florida during the winter. This adjustment of the refrigerator car supply to the demand cannot be made by a railroad company for itself, except, perhaps, by a very few of the great systems whose lines, extending to regions that are widely separated by distance and by characteristics of soil and climate, can give practically continuous employment to such cars. The great packing companies needing transportation under refrigeration for their meat products all the year round were the first to construct and maintain refrigerator cars in considerable numbers. This quickly led to these companies furnishing the greater number of these cars required for the transportation of poultry, butter, and eggs, fruits and vegetables. The ownership of the vast majority of the refrigerator cars also led to these companies being in a position to dictate over what railroads the traffic should be sent, and therefore they obtained a certain control over the transportation charges. The icing charges were levied at the will of the refrigerator companies, and, as they had a practical monopoly of the service, such charges were often exorbitant and became the basis of many complaints. It would seem, however, that the enactment of Congress compelling the charges for icing to be definitely fixed and published in the same tariffs with the transportation charges has largely, if not entirely, removed the cause for such grievances, and that the useful functions of the system of transportation under refrigeration are becoming generally recognized.

As the first transportation under refrigeration was directed to the conveyance of perishable articles of food to Chicago, so also did the system of cold storage attain

its first conspicuous development in Chicago, which is to-day the principal cold storage center of the United States. Cold storage buildings of the latest type have thick walls of concrete lined with air chambers through which fresh air is continually fanned. Each chamber is encircled with pipes, through which ammonia or chilled brine is driven, keeping the temperature at freezing point, at zero or lower if desired. At the time of the most abundant supply thousands of barrels of apples, thousands of tubs of butter, thousands of chickens and turkeys, and thousands of cases of eggs, may be placed in any one of these cold storage houses. They are also used for the storage of chilled beef and mutton and, to a more limited extent, of frozen beef and mutton. Practically all of the fish carried over long distances are frozen, and large quantities are carried in cold storage houses.

There has been much discussion as to the kind and extent of the change in the quality of articles of food while they are in cold storage. Critics of the system vigorously assert that deterioration begins from the time they are placed in cold storage and continues in accelerating degree throughout the period during which they are kept there. Those who have developed the system state that if a product is originally sound there is no deteriorating for an extended period so long as it is kept frozen—weeks in the case of some products, months in the case of others, and a year or more in the case of poultry.

It would seem that a necessary step toward the efficiency of cold storage and the safety of the cold-stored products is an extension of preparation by freezing or cooling the products before they are placed in storage. It has been the custom to gather some fruits before they have ripened that they may ripen in transit and in storage. There is no question that the quality and even the wholesomeness of such fruits is inferior to that of those which have been allowed to ripen on the tree or the vine. A process of freezing in advance has lately

been applied to strawberries, with the result that they can be kept in good condition in storage for five or six weeks. The extension of this process is one of the problems which the Department of Agriculture is endeavoring to solve, with every prospect of success.

In the marketing of the quickly perishable foodstuffs that are produced by countless growers and consumed by a multitude of consumers, there is not the pronounced tendency toward the concentration of handling that is marked in the case of foodstuffs not so quickly perishable, and conspicuous with the more durable products of other kinds.

As fruits and berries, vegetables and melons must, as a rule, be quickly sold to avoid loss, and as there is no change in their form between the time of ripening and the time of disposition, it is but natural that there should not be many changes of ownership as they pass from the grower to the consumer. The development of the associations of producers, through which it is endeavored to direct the distribution according to the requirements of the markets, has been the only noteworthy step in the way of centralization.

A half century ago grain was marketed in much the same manner as fruits and vegetables are now. It was sent by the farmers to the elevators at the larger markets, consigned to commission men. It was to the interest of each railroad to provide elevators as a receptacle for the grain brought from the fields over its lines, and it became the custom for the railroads to lease these elevators to men who operated them simply as storage houses and derived their compensation from the charge for storing grain in them. It naturally being the desire of the lessees to keep their elevators filled that they might be in receipt of continuous revenue from the storage charge, it became their practice to buy grain. They sent their representatives out in the farming lands to dicker with the farmers, and sometimes erected smaller elevators at various places in the country in which the neighboring farmers were allowed free storage. The men leasing

the elevators thus became the principal intermediaries between the farmer and the miller. Certificates representing the grain in the elevators were bought and sold by brokers. With the expansion of the milling interests, however, it became more and more the custom for the owners of the large mills to buy grain directly from the farm. The complexity of the export business has tended to place the purchase of grain for export in the hands of the great grain firms having widespread correspondents who keep them informed of the supply of grain in all producing centers, and the demand for grain in all markets. These firms have the facilities for chartering vessels and negotiating with the great steamship lines, and the capital requisite for purchasing and carrying the vast quantities of grain needed in their operations. The purchase of grain direct from the farmer by these large milling companies and exporting interests tends toward the elimination of the broker. In Chicago, for example, instead of the dozens of brokers who once prospered by buying and selling grain on commission, the vast bulk of the business is now done by a very few firms of large capital, whose information as to crops and markets is obtained from worldwide sources.

In the transfer of those foodstuffs that undergo various processes of manufacture before they are ready for the market, the elimination of the broker is still more marked. A half century ago men known as drovers used to buy livestock from the growers and drive it on foot to central markets, where it was disposed of through brokers. Transportation by rail has transformed the caretaker of livestock from such a man, who walked or rode across the plains in the rear of a drove of cattle, into a hostler who accompanies them by train to see that they are properly watered and fed. The perfecting of the refrigerator car that made possible the development of the great packing industry has caused the purchase of livestock used in the packing houses to be made in the main by their representatives, who are located throughout the cattle-raising regions, and keep continu-

ously informed as to the condition of the cattle supply. The great packing houses buy the live animals from the farmers who have fattened them, and send the meat products to their branch houses in various cities, whence they are distributed to the local butchers.

To every one of the phases of the problem presented by the production and preparation for shipment of the food supply, the officers of the Department of Agriculture are giving close and continuous attention. These men, each an expert in his particular field, obtained their appointments through fitness and, entirely removed from political influences, conduct their work with the earnest enthusiasm engendered by a well defined desire for a definite achievement. The efficiency of the Bureaus of the Department is enhanced by the work of the sixty-one experiment stations under their direction.

The ascertainment and the diffusion of accurate and advanced knowledge in regard to the production and handling of the food supply is furthered by the State colleges of agriculture endowed by the government under the enactment for which Senator Morrill, of Vermont, worked unceasingly for a number of years, and the results of which are a monument to his memory. Many of the States in recent years have introduced courses on agriculture in the high schools and many of them have established specialized dairy schools. Under the auspices of the State schools are held the farmers' institutes, gatherings here and there for a limited time of the farmers of one or more counties, which are attended by lecturers and demonstrators, who advise the farmers as to the characteristics of the best products, as to seeds, soils, fertilizers, and the best methods of planting; and the breeding and care of livestock and poultry.

The railroads of the country have co-operated with and furthered the work of the Department of Agriculture, and of the colleges and schools. Many of the railroads, especially those in the South and West, have demonstration cars stocked with samples of the best

seeds and products. These cars are attended by lecturers and demonstrators who are employed by the railroads, and who are often accompanied by delegated members of the faculties of the State institutions. They are sent to the farmers' institutes and taken throughout the length and breadth of the region which the lines of the railroad penetrate, diffusing among the farmers the information collected by the expert investigators. The railroad companies render this service entirely at their own expense. Increase in their traffic naturally follows the development and prosperity of the country, which it is to their interest, as well as that of the government, to promote.

It is not always an easy matter for the railroad companies to distribute their cars in accordance with the demands of traffic. If the different commodities moved at regular periods one year after another, it would be difficult enough to provide just the right number of cars at the right time and move them promptly; but when, as has happened, on account of strikes, unfavorable conditions of the weather, and other causes, great crops of grain, an unusual tonnage of bituminous coal and extraordinary quantities of merchandise, all pressed for shipment at the same time that fruits, delayed in ripening, demanded to be hauled to the markets before they perished, the already badly hampered railroads were simply overwhelmed.

The railroads endeavor to obtain as accurate information as far in advance as possible of the demands that may be made upon them from divers sources. As the grain is ripening on the western fields, the station agents along the various railroad lines send frequent reports of its condition to the general offices, and men of experience are periodically sent out from these general offices to go through the grain territory. Upon the information thus obtained the western railroads estimate the number of cars that probably will be required and endeavor to collect them in the grain districts. The movement of

meats, poultry, butter, and eggs is more nearly regular and the car distribution can be made with a greater degree of certainty.

The greatest difficulty, however, in estimating and arranging the car supply, as has been intimated, is in connection with the quickly perishable foodstuffs. In the summer of 1907 the railroad company leading therefrom was advised that the peach crop of the Delaware and Maryland Peninsula would require five hundred cars. That number was fitted with the racks needed for peach crates, but by the time they were ready a turn in the weather had reduced the peach crop, which, at best, had likely been overestimated, to but little more than fifty cars. All the time that these cars had been assigned for what must necessarily be a prompt movement of the peach crop, they could have been used to excellent advantage in the grain movement.

This chapter ought not to conclude without reference to the heaviest handicap under which the farmers of this country labor in moving their produce from the farms, and that is the lack of good country roads. In the Report of the Industrial Commission, Vol. VI, page 446, appears the following paragraph:

"It has been shown, after careful inquiry, that the average haul of the American farmer in getting his produce to market, or to the nearest shipping station, is 12 miles. The average cost per ton for hauling over the common country roads is 25 cents per ton per mile, or \$3 per ton for a 12-mile haul. Careful estimates, also, place the total tons hauled at 300,000,000 per year and the average haul at 12 miles, making the total cost of getting the surplus products of the farm to the local market or to the railroad \$900,000,000. This figure is greater than the operating expenses of all the railroads in the United States, which for the year ending June, 1898, were only \$818,000,000. In other words, it cost \$82,000,000 more to haul farm products to the local points where they enter the distributive system than it does to operate our entire railway system, comprising nearly half the mileage of the world."

The vast improvements of the country roads in nearly every section of the United States, and the adaptation

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of trolley lines to the use of the farmer during the period that has elapsed since the year referred to in this report have much facilitated the initial movement of produce. These are but the first steps in the line of securing the better conditions that are essential to the highest economy and efficiency in the distribution of farm products.

CHAPTER V

THE DISTRIBUTION OF RAW MATERIAL AND MERCHANDISE

IN this time of the large industrial corporations the purchase of raw material from the producers is very generally effected without an intermediary.

It was once the universal custom for cotton to be hauled by the plantation owner to the general store, where it was purchased by the storekeeper, sometimes for cash, but oftener taken as an offset to the supplies that had been furnished during the period of growth. The storekeeper disposed of the cotton to dealers in the various cities, and it was bought and sold by brokers on the floor of cotton exchanges. This is still largely the custom, but of late years it has become more and more the practice of the great cotton dealers, the owners of the great cotton mills, and the great cotton exporters to make purchases of the crop through their representatives direct from the plantations, and there has been the endeavor, through cotton growers' associations, to give the plantation owner opportunity to hold his cotton through the seasons of low prices in order that he may obtain the benefit of an advancing market.

Even so recently as a score of years ago the transfers of iron ore from the mine to the furnace, of pig iron from the furnace to the mill, and of the merchantable iron or steel from the mill to the user, were effected through the agency of brokers. At the present time each of the great iron and steel companies owns beds of ore; many of them own both steamboats and railroads whereby the ore is transported to their own blast furnaces, and thence to their own mills. It has likewise been but a score of years or so since coal brokers flourished in great numbers. Now each of the iron and steel com-

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panies either uses coal from its own mines or purchases direct from the great coal-mining companies, as do the railroads and other large coal consumers. In many places the large coal companies own the retail yards through which coal is sold to the consumer.

Some years ago certificates covering crude petroleum were bought and sold by brokers on the floor of exchanges, the price of oil thus being fixed. Nowadays the great oil companies either directly control the wells, or purchase the oil directly from their owners at prices adjusted by the oil interests.

There is not the same degree of concentration in the distribution of lumber, owing to the wide diffusion of the forests, and the comparative simplicity of the process of sawing the timber into the elementary shapes, which are marketed among a vast number of widely diffused users. There are lumber associations, however, which endeavor to harmonize the interests of different dealers.

Tobacco grown in Virginia and the Carolinas is taken in wagons to the various towns where there are warehouses, through which the farmers negotiate the sale directly with the buyers, who are, in the main, the representatives of the great tobacco companies. In Tennessee and Kentucky the tobacco is "prized" into hogsheads by the farmer and shipped to primary markets, such as Lexington, Louisville, Cincinnati, and St. Louis, where it is sold through warehouses by commission merchants, the larger portion here also being purchased by the great tobacco companies. The custom is growing, however, for these companies to purchase the tobacco of these States directly from the farmers, their representatives often times negotiating for the crop of an entire plantation while it is still in the leaf.

The sugar cane of the United States is grown principally in Louisiana. It is taken by the farmer, usually by wagon, to the "central," the local and crude refinery, whence it passes into possession of the buyer, who, in this case, is nearly always one of the great sugar refining companies. The beet sugar industry has obtained

its principal development in California, Colorado, and Utah, where the sunshine, the semi-aridity, the susceptibility to irrigation which permits the application of water at intervals as desired, has caused the peculiar adaptation of the soil to the production of beets containing a large portion of sugar. These beets are delivered by the farmer to the factories, whence the sugar is sent to the principal places of storage, such as Kansas City, Omaha, and St. Louis.

The tanning industry has been concentrated into the hands of two or three companies whose representatives are located in the vicinity of the large packing houses, and the other places throughout the country where hides are obtainable, where they bargain directly for them.

The greater portion of the paper used in this country is that which passes over the presses of the great newspapers. It is made largely of fir and spruce obtained in the Canadian forests, vast areas of which are owned by the great paper manufacturing companies. Lumbermen deliver the logs at the cutting up-mills, numbers of which are situated on streams down which the logs are floated. From such mills the cut lumber is transported to a pulp mill or, where it is necessary that the lumber be transported from the forest by rail, the pulp mill is generally adjacent to the cutting-up mill. The pulp is taken to the paper mill whence the paper is consigned directly to the newspapers, to whom it is sold by the representatives of the great paper manufacturing companies.

The copper and lead ores found in the far Western States are transported from the mines to the smelters, at various places between the Pacific Coast and the Missouri River; the bullion is taken from these to other smelters, or to refineries, many of which are as far East as the Atlantic seaboard. The several chains of smelters and refineries are under the control of the great smelting and refining companies, who sell the refined copper and the refined lead to the mills through which it is wrought into articles of use.

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As the places of production of many of the principal raw materials are comparatively few in number and fairly well segregated, and as the places of manufacture in each of many lines of industry are comparatively few in number and fairly well segregated, the problems of transportation are not so difficult and many sided as these connected with the conveyance of the perishable foodstuffs. As ventilated or refrigerator cars are not required, and as delay in transit does not result in deterioration to, or total loss of, the shipments, there is not the necessity for the immediate furnishing at one place and at one time of a great number of cars to move products that will decay if the car supply be delayed. Each car may be loaded more nearly to its capacity as there is not the necessity for leaving space for ventilation as in the case of some organic products, or for carrying vast quantities of ice as with others. The greater the proportion of the weight of a loaded car which yields revenue to the railroad company, the lower the rate, other things equal, at which the freight contributing such large proportion of weight can be carried.

That is, the weight which the locomotive hauls, and, therefore, for the hauling of which the railroad company has to pay, is that of the load and of the car combined. A car will hold a heavier load of some commodities than of others. A high rate on a carload of a bulky commodity may yield a lesser rate per hundred pounds if applied to the total weight of load, of car, and of ice or other non-paying adjunct, than a lower rate on a carload of a heavier commodity applied to the weight of load plus weight of car, especially if it be not accompanied by ice or other non-paying adjunct.

Attempts have also been made to eliminate the middle man in the distribution of various products from the factory to the consumer, but they have met with only a partial success that has affected only a limited number of commodities. The wholesale dealer is acquainted with the conditions of the region which he supplies and gauges

the needs and the credit of the retail dealers to whom he sells. The retail dealer gauges the needs of the community which he serves, and the credit of his customers. These functions will usually be more carefully performed by a man whose business life directly depends upon his success in their performance than by the agent of a manufacturer. The wholesale and retail dealers, by trading in a variety of commodities, distribute the cost of their handling over a wider range than the exclusive agent of a particular line of manufacture, the handling cost per unit therefore being less. The wholesale dealer also usually maintains a store of goods from which the retail dealer can replenish his supply more promptly than from a remote place of manufacture. The distributive flow of products is, therefore, in greatest volume from the factory to the wholesale merchant and from the wholesale merchant to the retail merchant. Opposed to the various steps from the producer of raw material to the final manufacturer—that is, from the producer to the concentration point, from the concentration point to the place of the first process of manufacture, and then to the place of the next process of manufacture, and so on—there are but three steps in the case of the distribution from the manufacturer to the consumer, namely from the manufacturer to the wholesaler, from the wholesaler to the retailer, and the retailer to the consumer. This is not without variation. The wholesale dealer will often order a consignment to be shipped direct from the factory to the retail dealer without its passing through his warehouse at all, and the retail dealer, particularly if he can afford to buy a full carload at a time, will often purchase directly from the manufacturer. There are a variety of different relations that may exist between the manufacturer, the wholesale merchant and the retail dealer, but they do not change the general form of the distributive structure in which the wholesale dealers and the retail dealers play the principal part.

While there are comparatively few places of production

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of many kinds of raw material, and comparatively few manufacturers of each of many kinds of products, there are innumerable distributing centers at which there are wholesale merchants, and there are retail dealers in every city, town, village and hamlet in the United States.

This cursory review of certain of the principal commodities that enter into the traffic of the United States, and of the commercial mechanism through which they are distributed, leads to further contemplation of their movement over the railroads. In the great channels of traffic the great staple commodities move in train loads; raw material to the mills, and finished products from the mills to the distributing centers; foodstuffs move from the sources of supply to the distributing centers. Radiating from these centers are trains composed of cars, some laden with this commodity and some with that, or some of the cars may be each laden with a variety of commodities. This loading of various commodities in the same car is conspicuous in the case of local freight trains that go from station to station, unloading at each the small shipments consigned to it. In a great traffic channel of any particular commodity an entire train may be run through over two or more railroads to some point of manufacture or to some place of distribution. A solid carload of a commodity may be transferred at a junction point from the incoming train of one to the outgoing train of another railroad. Through consignments that occupy less than a car are often unloaded at the junction point transfer depot from the car of one railroad and loaded into the car of the other.

Thus a main traffic channel is broken up at a principal distributing point into secondary channels which, through the retail dealers, are broken up into still smaller channels, just as the great artery of the body breaks into secondary arteries that split again into smaller arteries. The flow of the blood of the body, however, is always in the same direction, through the same arteries, and the volume of the blood is substantially the same day after

day ; while the great traffic channels of the United States extend in various directions, crossing and recrossing. The volume of the commodities varies from week to week, from month to month, and from year to year, as there are variations in supply and demand, as there are fluctuations in production and distribution due to divers causes.

CHAPTER VI

THE TRANSPORTATION CHARGE AND PRICES

VASTLY the greater proportion of the commodities moved by the railroads are in the processes of commerce; that is, the conveyance from the place of consignment to place of receipt in the majority of cases is sequent to a transfer of ownership. The seller cannot continue in business unless he obtain a market for his material, or his merchandise, and the purchaser cannot continue in business unless he secure the material, or the merchandise, which he needs. The margin within which the added charge for transportation may be adjusted is therefore limited in one direction by the amount which the seller of a commodity will accept and the purchaser will pay and continue in business. If the seller or the purchaser cannot make a profit at least approximately as great as from other operations in which it might be feasible for him to engage he will, other things equal, change his business, and the railroad will no longer have the traffic that flowed from his operations. A railroad, therefore, must adjust its transportation charges that production may continue. This includes the adjustment of rates that products may be sent to markets, that the products of the region tributary to one railroad may reach markets in competition with similar products of other regions, and in competition with other products that will answer the same purpose.

The wider the markets that the producers can reach, the greater is the encouragement to production. The more numerous and varied the sources of supply of which the purchaser has choice, the more likely that his requirements will be met to his satisfaction. This is the case whether the sale and purchase be of food,

whether it be of raw material to feed the processes of mill or factory, whether it be of wares for wholesale distribution, or whether the purchase be of merchandise by the retail dealer, or the final consumer.

It has long been claimed by the railroads of the United States that their rates of freight are lower than those of any other country, and that the nation's progress in industry and commerce has in large measure been due to the cheapness and the efficiency of its transportation service. By way of proof has been instanced the proportion that the transportation charge bears to the selling price of the staple commodities. It is said that the rate charged for the transportation of food products does not affect their selling price in any market of the United States—that price being fixed by the processes of supply and demand which the amount of the freight rate does not influence. In the spring of 1907 inquiry was made upon this point among the produce dealers of the city of New York, who gave the information contained in the following paragraphs.

The price paid by the housekeeper per dozen for eggs during the season of shipment seldom exceeds by more than five cents the price received by the Western farmer who takes them to the country store. That is, the railroads bring eggs a thousand miles to New York for a cent or a cent and a half a dozen, and two thousand miles or so for about two cents and a half a dozen, the dealers taking the remainder of the five cents as payment for handling. The net difference between the price paid per pound for butter at the creamery, whether in New York City or in the Mississippi Valley, and that paid by the New York retail dealer averages about one and one-half cents for commission and one cent for freight.

In December, January and February turkeys are taken from the Texas ranches to marketing centers, the transportation charge on ten birds weighing one hundred and twenty pounds being about 25 cents. After these ten birds have been dressed and packed they weigh

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about one hundred and two pounds, and the freight rate from Texas to New York is \$1.50 for 100 pounds. That is, a Texas turkey that retails in the New York market for 20 cents a pound will have paid one and three-fourths cents per pound to the railroads that took it from the ranch to the concentration point and thence to the market. The farmer in Texas received about nine cents per pound, leaving a trifle over nine cents to be divided between the packing house, the produce merchant and the retail dealer. Chickens and other dressed poultry that come from Chicago pay a freight rate of about three-fourths of a cent a pound, the railroad company supplying a refrigerator car, and keeping them iced while in transit.

The rail rate from Chicago to New York on grain and grain products for domestic consumption has been about $17\frac{1}{2}$ cents per 100 pounds; that is, a bushel of oats or corn or wheat, that may bring in New York anywhere from 40 cents to \$1, has been brought from the western farm for from eight to fifteen cents. Hay that has yielded the farmer \$18 or \$19 a ton and sells in New York at about \$24 has paid the railroads somewhere from \$3 to \$5 per ton, according to whether it came from the meadows of the Ohio or the Mississippi Valleys.

A bullock that weighs 1200 pounds will, at Chicago, bring on an average \$5.50 per 100 pounds, which includes an average of five cents per 100 pounds for freight from the grazing grounds. Its total value at the stockyards, therefore, is \$66. When it has passed through the packing house its weight will have been reduced to 700 pounds. From Chicago to New York it will pay 45 cents per 100 pounds freight or, in other words, the 700-pound carcass, which, if retailed at an average of 15 cents a pound would bring \$105, has paid the railroads between \$3.50 and \$4 from the far West to the metropolis.

On potatoes the freight rate per barrel containing about two and a half bushels is \$1.05 from Florida, 65 cents from South Carolina, 45 cents from North Caro-

lina, 30 cents from Virginia, and from this 12 cents per bushel the rate scales down to five or six cents per bushel from near-by regions. The freight rate on tomatoes from Florida is 25 cents per package of six baskets, from Texas 15 cents for twelve quarts, from Mississippi 76 cents per 100 pounds and from the near-by farms eight cents per bushel of twenty-eight quarts. The freight rate on cantaloups to New York ranges from less than a cent for a melon from the Carolinas to about two and a half cents for that from California. Oranges from Florida to New York pay the railroads from four to nine cents a dozen, and those from California six to twelve cents a dozen, as they may be large or small. A three pound can of tomatoes from Maryland pays the railroad about one-half cent per can.

The freight rates to New York on foodstuffs have been selected as typical of the transportation charges applying on such commodities in the main channels of traffic from the West to the East; and, in so far as fruits and vegetables are concerned, from the South to the East. The transportation charge per consumer's unit on these foodstuffs is a trifle less to Philadelphia and adjacent Delaware and New Jersey; another fraction lower to the great Pittsburg district, and still lower to the cities of the West and South that are nearer the places of production. As prices of food products fluctuate within a fairly wide range and freight rates also fluctuate, though within but a very narrow range, the rates and prices specified in the foregoing, as well as in the succeeding paragraphs of this chapter, cannot be considered as of specific application at any given time in the future. They were exact at the time they were collated and will very closely approximate accuracy at any period.

As New York may be considered representative of the places to which edible products of the West and South are consigned, so also may St. Louis be considered a typical center of reception of the manufactured products of the East. The information given in the im-

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mediately following paragraphs was obtained from merchants and manufacturers of that city.

The transportation charge on the material entering into a pair of shoes made in a St. Louis factory averages one and one-quarter cents. The transportation charge required to place that pair of shoes in the hands of a consumer in any part of the United States averages between two and three cents. The material entering into an ordinary bedstead, such as retails in St. Louis for \$8, will have paid the railroad about 40 cents. From ten pounds of nails made in Pittsburg and retailed in St. Louis the railroad will have obtained a trifle over two cents, and from ten pounds of wire two and one-half cents. An axe made in the Pittsburg district that retails in St. Louis for \$1 will have paid the railroads one and one-fourth cents. At Kansas City that same axe will have paid freight of a fraction over four cents and at Denver, where the retail price will have advanced to \$1.30, it will have paid 14 cents freight. A padlock retailing in St. Louis at 50 cents will have paid the railroads a little more than one-half cent; at Kansas City it will have paid one cent, and at Denver, where the retail price advances to 75 cents, it will have paid two cents to the railroads. An eighteen gallon galvanized iron tub that retails in St. Louis at 80 cents will have paid the railroad from place of manufacture two and three-tenths cents; to Kansas City the freight rate will have been six and one-fourth cents and to Denver 15 cents, but here the retail price of that tub is \$1. A stove that weighs two hundred pounds and retails in St. Louis for \$18 will, in carload lots, pay 44 cents to Kansas City or Omaha, and retail there for \$22; \$1.48 to Denver and retail there for \$25; \$2.50 to Seattle, and retail there for \$30. When a housewife of St. Louis buys a dozen clothespins she has paid the railroad five ten thousandths of a cent. If she buys a washboard at 50 cents she has paid the railroad forty-two one hundredths of a cent. In Denver she would pay for that washboard 60 cents, of which the railroad would have received two cents. The

higher rates and prices that have been specified as applying in Kansas City and Denver may also be taken as applicable to cities in the interior South and Southwest, such as Oklahoma, Forth Worth and San Antonio.

In response to inquiries made concerning certain staple articles of daily and general use in various of the smaller cities and towns extending from Massachusetts to Georgia and Illinois, and from Michigan to Mississippi, it has been ascertained that throughout this region the transportation charge on such articles ranges as follows: On a man's suit of clothes from two to eight cents; on calicos and gingham from one-fiftieth of a cent to one-fifth of a cent a yard; the freight charge paid on the entire apparel of a fully dressed man or woman in this section would range perhaps from six or seven to 16 or 18 cents. The rate on an ordinary dining-room suite consisting of table, sideboard, six chairs and a china closet, would average from 75 cents to \$5, on a parlor suite of sofa and four chairs from 50 cents to \$4, on a bedstead and its equipment from 75 cents to \$1.50, in each case from the factory to the home. The lumber used in the ordinary eight-room house will have paid the railroads from \$35 to \$150, and the brick from \$6 or \$8 to \$50 or \$60, as the kiln may be near or remote. A fifty pound sack of flour from the mill, even at Minneapolis, in but a few cases has paid a freight rate of over eight or nine cents to the consumer. Products of the beef or the hog are carried from the western packing houses throughout this territory at rates that vary from a fifth of a cent to not exceeding a cent per pound.

It has not been difficult to secure such information as applies in the main to the transportation charge borne by a manufactured article from the place of making to the final market, or on foodstuff from the place of growth to the place of sale to the consumer. Data as to the amount of transportation charge carried by the various kinds of raw material entering into a manufactured product has not in many cases been so easy of ascer-

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tainment. A¹ principal reason has been that the manufacturers in numbers of instances do not know what it is themselves. Many kinds of material are bought at a price which includes delivery at the factory, the freight rate not coming under the cognizance of the purchaser. The different materials used in a product may have come from such diverse sources, and paid such varying rates of freight, that the ascertainment of the total freight charge in any given unit of manufacture would be too difficult to be worth while. In numerous other cases the freight charge is confessedly so small an item that no attempt is made to apportion it as an item of expenditure per unit of product, the total simply being grouped in the aggregate of expense.

The statement that the transportation charge borne by the material entering into an ordinary pair of men's shoes averages one and a quarter cents is the result of a definite calculation made by one of the largest shoe manufacturers of the country. A leading woolen manufacturer estimates that the price of wool at Boston will average perhaps 30 cents a pound "in the grease," including a transportation charge that will average one cent a pound. The loss in cleaning and scouring is about forty-five per cent., and the price of a pound of scoured wool will average about 63 cents at the mill. Of this about two cents is chargeable to transportation. One hundred pounds of wool will make about seventy pounds of straight woolen cloth, on which the transportation charge has therefore been a fraction less than three cents a pound. On cloth that is mixed with cotton the transportation charge is less. The rates on woolen goods from any of the New England mills are so low that a yard of cloth which will sell from \$1.50 upwards in any of the western markets will not have paid the railroads more than five cents from the sheep's back in Colorado to Massachusetts and back again to the Mississippi River.

The following information as to the extent of the transportation charge borne by divers materials of vari-

ous industries has been obtained in each instance from an authority in that industry.

The transportation charge on raw cotton to the mills in Massachusetts will average from one-half to two-thirds of a cent a pound, not exceeding one cent per pound even from plantations so remote as those of Texas. Cotton loses from fifteen to twenty per cent. in the cleaning, one hundred pounds of cotton making from eighty to eighty-five pounds of cotton goods. As ordinary calico will run about six yards to the pound and sell for about five cents, the cotton that has paid a freight rate of from 50 cents to \$1 is woven into \$24 worth of calico.

The transportation charge on a pair of rubber overshoes, including the rubber from South America, the cotton stock, and the shipment to the western markets, averages about two and one-half per cent. of the cost of those markets. That is, a pair of rubber overshoes retailing for 75 cents will have paid for transportation, all told, less than one and nine-tenths cents.

In no one of these examples, which, perhaps, are typical of the entire clothing industries in so far as the use of leather, wool, and cotton are concerned, is the transportation charge an appreciable factor in the price either of the material to the manufacturer or of the finished article to the consumer.

A barrel of flour made in Minneapolis and transported to Boston is sold at the time of this writing by the milling company to a dealer of that city, or any other place in New England, for \$6. Of that \$6 accrues to the transportation agencies, for carrying the wheat of which that flour was made from the Western farm to the Minneapolis mill, and for carrying the flour from the mill to Boston, an amount that averages 85 cents. The proportion of the transportation charge to price at different markets varies with the freight rate. At New York the milling company would sell that barrel for \$5.95, which would include a total transportation charge of 80 cents; at Philadelphia the selling price would be \$5.90, the transportation charge 75 cents; at Buffalo or

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Pittsburg the selling price \$5.80, and the total transportation charge 65 cents; at Atlanta the price \$6.20, the transportation charge \$1.05; at New Orleans the price \$6.10, the transportation charge 95 cents.

Typical rates on leaf tobacco, averaging in value \$13 per 100 pounds from plantation to warehouse in Virginia and the Carolinas, are from 15 cents to 21 cents per 100 pounds; on the smoking tobacco into which this leaf is converted, and which sells at \$48 per 100 pounds, from Richmond, Virginia, to New York City 30 cents, to Chicago 59 cents, to Kansas City \$1.16. Rates from the plantation to the warehouse on the leaf tobacco of the Kentucky and Tennessee region, which also brings an average of \$13 per 100 pounds, are from 5 cents for short to 20 cents for longer distances. The plug tobacco into which this leaf is converted is sold at \$28 per 100 pounds, being distributed on such rates as these: St. Louis to Louisville, 25½ cents, to New York City 58½ cents, to Kansas City 35 cents, to Seattle \$2.20. Manufactured tobacco in all cases is sold at a price which includes delivery from the factory to the place of consignment, wherever it may be, in the United States.

The freight rate on cane sugar from the "central" in the Louisiana district to the final refinery ranges from 5 to 10 cents per 100 pounds, the refinery paying from \$3.50 to \$4.50 for the sugar. Sugar that is sold by the refining company at 4½ to 5½ cents a pound retails at 6 cents, the dealer making little or no profit. As a town of five to ten thousand people at the average per capita consumption of seventy-five pounds a year will consume a carload of sugar in about a week, the jobbing of sugar is greatly decentralized. Contrasting with this retail price of \$6 per hundred pounds typical distributive rates are, from New York to Chicago 25 cents, to St. Paul 30 cents, to Kansas City 42 cents; from New Orleans to Chicago 25 cents, to Atlanta 24 cents, to Kansas City 34 cents.

The freight charge on sugar beets raised in Colorado

and Utah from the farm to the refinery is always paid by the sugar company. It averages from 30 to 40 cents per ton, or for a distance of fifty miles is as much as 50 cents. A ton of beets contains about three hundred pounds of sugar which, allowing for an average loss during extraction, would produce two hundred and forty pounds of refined sugar. This is sent from the factories to the principal places of storage, Kansas City, Omaha and St. Louis. The aggregate freight charge from the farm to St. Louis on these two hundred and forty pounds is about \$1.70, and the aggregate revenue to the refinery at five cents a pound, \$12.

While the price of bananas is subject to great fluctuation, a fair average at New York, Philadelphia, Baltimore, Charleston, Mobile and New Orleans, the ports of import, is \$1.75 per 100 pounds. The average rail charge for carload lots from port to market is from 30 to 50 cents per 100 pounds. About one-third of the bananas consumed in this country are received at the North Atlantic ports, whence they are distributed throughout the Eastern and Middle States. The remaining two-thirds, which supply the South and West, are received at the Southern ports. Immediately upon receipt at New Orleans, for example, shipments are made to the North in train loads that they may be taken out of the warm climate before they spoil, and cars are re-consigned en route at the instance of the company which has very thoroughly organized the banana business, an allied company having about sixty agencies with men who devote their entire time to extending the sale of the fruit.

For hides that pay a freight rate from the packing houses at Chicago to New York of 30 cents per 100 pounds, the butcher receives, according to quality, from \$6 or \$7 to \$11 or \$12 per 100 pounds. The butchers remote from market have the freight rate deducted from the price paid them for hides, but it is a trifle, seldom exceeding five cents per 100 pounds. The hide loses from twenty-five to thirty-five per cent. in the process of tan-

ning; the price of leather is fixed by measure and not by weight. The rate on tanned leather, however, between Chicago and Boston is 39 cents per 100 pounds.

The railroads make low rates on fertilizer to encourage its use by the farmers, it being, of course, to the interest of a railroad to encourage the production of larger crops that its traffic may be augmented. Fertilizer of different grades brings from \$18 and \$20 to \$55 and \$60 a ton. Typical rail rates from the places of manufacture are from Jersey City to Trenton, New Jersey, \$1.10 per ton, and from Boston to Portland \$1.20 per ton—both rates applying in carload lots. In the South, where fertilizer is extensively utilized, representative rates are, from Atlanta to Thomasville \$2.50, from Charleston to Columbia \$2.00 per ton.

When allowance is made for the elimination of water from pulp and the shrinkage in its manufacture into paper, the average freight rate borne by the material entering into paper at the northern New England mill is about 13½ cents per 100 pounds. The manufacturers consider 17 cents per 100 pounds to be the average freight rate on the paper from the mill to places north of the Ohio and east of the Mississippi Rivers. The aggregate freight charge borne on the average by the 100 pounds of paper which sells at the factory for \$2.50 is therefore 30 cents.

As with all things else, the rates on the ores of the far western region have been adjusted under the necessity of the transportation agencies to so serve the mines that their products may be marketed. The rate upon the ore from the mine to the smelter, upon the metal from the smelter to the refinery, and upon the refined lead or refined copper from Chicago to the seaboard market, are all determined by this prime factor. The freight charges, for example, from the Coeur d'Alene district in northern Idaho on the ores from which the extraneous material has been roughly separated, to the Puget Sound refineries, reach a maximum of \$6 per ton for a distance of four or five hundred miles, and the rate from

Puget Sound to New York is \$14.50, the average transportation charge, therefore, being about \$20 per ton. The value of a ton of copper at 12 cents a pound is \$240, and a ton of lead at four cents a pound is \$80. Copper passes through manifold and expensive processes and its extensive consumption has followed the development of electricity. Lead does not require so many or so expensive workings, and it has long been a great staple of general use. The mine farther from a smelter naturally has to pay a higher rate of freight than a mine nearer to it, receiving, therefore, a lesser net price for its product, but the railroads are obliged to so adjust rates that practically every mine can reach a market.

The rate on refined petroleum between New York and Chicago is $27\frac{1}{2}$ cents per 100 pounds, the average rate paid north of the Ohio and east of the Mississippi Rivers being from eight to ten cents per 100 pounds. From Toledo to Atlanta the rate is 48 cents, from Whiting $46\frac{1}{2}$ cents, from New Orleans 35 cents. The rate from Chicago to the Missouri River is 22 cents, to St. Louis ten cents; while the rate from the Kansas field to St. Louis is 17 cents. One hundred pounds of refined oil contain approximately sixteen gallons which, at an average price of $12\frac{1}{2}$ cents a gallon at the refinery, would aggregate \$2. The price per gallon to the consumer is increased one cent with each increment of seven cents in the freight charge.

The principal biscuit company receives from \$8 to \$16 per 100 pounds for its crackers and cakes, averaging \$10 per 100 pounds for its leading brand. From its New York plant to Boston the freight rates are 19 cents per 100 pounds, to Atlanta 62 cents. The rate from Chicago to Montgomery is 69 cents, to Houston 81 cents, to Denver 97 cents. From either New York or Chicago to the Pacific Coast the rate is \$1.60. These rates apply to carload lots, all goods being sold delivered, the company absorbing the freight. The retail price is the same all over the United States as it is with shoes, cigars, soap, proprietary medicines and dozens of other familiar articles.

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On cotton, the great staple product of the South, the freight rate structure has been in process of development even a longer time than that affecting the movement of grain from the West. From the plantation into Memphis, the largest inland cotton center of the United States, a typical rate is 30 cents per 100 pounds for one hundred and fifty miles. From Memphis to Boston the rate is $57\frac{1}{2}$ cents, and from Memphis to the Gulf 30 cents per 100 pounds. From Augusta, Ga., a central market of the Eastern cotton growing district, the rate to Charleston and Savannah is 21 cents, to Brunswick 23 cents and to Norfolk 26 cents per 100 pounds. A bale of cotton contains five hundred pounds and is therefore worth, at 11 cents a pound, \$55. The aggregate transportation charge on this bale from the plantation, one hundred and fifty miles from Memphis, to Boston, is \$4.27.

Mainly because of the rapid shifting of the sources of supply, there has not yet been developed a stable structure of rates for the movement of lumber in all parts of the United States. By way of illustration, however, it may be said that a fair average rate on lumber into Memphis from the forests of Arkansas is six cents per 100 pounds, or \$2.40 per 1,000 feet. Lumber going from Memphis to New Orleans for export will pay \$4.80 or a total transportation charge from the forest of \$7.20 per 1,000 feet. A fair average rate to the markets in Ohio and Indiana is \$8 per 1,000 feet, a total transportation charge from the forest of \$10.40. This is on the kind of lumber that in 1905 and 1906 sold at about \$40. The rate on yellow pine from New Orleans to Chicago is 24 cents per 100 pounds.

There is an equalization of rates on the iron ore from the upper lakes in that the rates of the boat lines from the ore mines are the same to each of the Lake Erie ports. From thence to the furnaces they are adjusted under the policy of the railroads to make the transportation charge on the raw material required to make a ton of pig-iron approximate the same amount at each of the competing furnaces of southern Ohio, Pittsburg, Wheel-

ing, in the Mahoning and Shenango Valleys, and even as far as the Schuylkill Valley. How closely this equalization is effected is shown by the fact that the transportation charge on the ore, coke and limestone required to produce one ton of pig-iron is as follows in these respective districts: At the furnaces on the Monongahela River in the Pittsburg district, \$5.82; at the furnaces of the Mahoning and Shenango Valleys, \$5.57; at the furnaces of the Wheeling district, \$5.78. These charges compare favorably with those at the furnaces on the Lake Shore in the Chicago district, which aggregate \$5.63 per ton of pig-iron, but are higher than at the furnaces on the Lake Shore in the Cleveland district, where they aggregate but \$4.72. The rates on coal, which gives return loads to the cars that take the ore south from the Lake Erie ports, are maintained at established differences between the coal fields of Ohio, Pittsburg and West Virginia. The rates in effect in the spring of 1908 were \$1 per ton from southern Ohio, 90 cents from southeastern Ohio, \$1 per ton from the Pittsburg field and \$1.15 a ton from West Virginia.

The claim of the railroads that the rates on foodstuffs are not high enough to enter as a factor in fixing the selling price is fully substantiated by the statements of the dealers in such products. That is, the conditions are, with negligible exceptions, such that if the price obtainable in the markets be sufficient to encourage the growing of livestock, grains, dairy products, fruits or vegetables, the rate of freight, from whatever locality to whatever market, is sufficiently low to allow the producer to enter that market. His profits are, however, as a matter of course, diminished by the amount of freight which he pays, and, as a rule, the farther the place of production from the markets the greater is the freight charge. The differences in the net return to the producer are almost invariably reflected in the value of the land, which is lower as the distance from the markets is greater. Largely because of the defective system of mercantile distribution the grower of produce

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obtains a smaller proportion of the price paid by the consumer than accrues to the grower of any other agricultural product. Where, as in this country, the opportunity for the extension of cultivation is practically unlimited, a good market one season leads the farmers of any district to increase their production up to the point of minimum profit and the railroads are then besought for lower rates: when unfavorable weather or other conditions reduce their output they are also disgruntled. It therefore rarely happens that the grower, especially of the quickly perishable foodstuffs, is entirely satisfied with the freight rates.

A controversy, that it is scarcely an exaggeration to designate as typical, occurred several years ago between the growers of watermelons in a Southwestern State and the railroads conveying the melons to the primary markets. In comparatively a few years that region had become so productive that the shipments of watermelons over one road alone ranged from 1,400 to 1,800 cars during a watermelon season, deliveries being made all over Ohio and Indiana through dealers from those States who came down and bought the melons at the farms. The contention for lower rates had waxed so warm that a reduction in the watermelon rate became the issue upon which a legislative campaign was fought. The candidate pledged to secure a reduction in the rate was elected, and introduced a bill, which was enacted by the legislature, making the rate to the nearest primary market $7\frac{1}{2}$ cents per 100 pounds. The railroad companies put this rate in effect and used it as a basis for the lowering of rates to the territory beyond. During the year of this rate reduction the traffic department of the railroad company referred to sent word to the farmers that the company had handled 1,500 cars of melons that season, the prompt shipment of which had been highly satisfactory to the growers. It furthermore said that the movement of these melons from that territory was a one-way traffic entirely, it being necessary to send special cars empty for the crop. These were necessarily stock cars that

there might be ample ventilation, but they had to be supplied with extra slats in order that the melons might not fall out. It was necessary for them to be switched in requisite number on side tracks especially built adjoining the farms where the fruit was grown; that switching engines be kept at work, putting cars in and taking cars out all night and all day. The cars of melons, moreover, had to be hauled on special trains at a high rate of speed to get them to the markets before they spoiled. This reduced the tonnage per train fifteen or twenty per cent. below the maximum that could be hauled at the normal freight train speed. A car with the average allowable load of 1,100 watermelons would contain but about twelve tons, although its capacity would be eighteen or twenty tons: the weight of the car exceeded the weight of the load. The switching and other special movements necessitated the employment of night telegraph operators and other extra help at the melon fields.

All of these conditions led the assistant to the general manager of the company to make an analysis of the expenditure as compared with the earnings. Way bills were abstracted and the receipts listed. A tabulation was made of the revenue tonnage, the gross tonnage, the tare weight, and the expenses incurred in behalf of the traffic. He found that the handling of the 1,500 cars of watermelons involved a loss to the company of \$12,000 if the expenses of operation alone were considered.

The results of this investigation were brought to the attention of the traffic department and the next spring it sent a circular to the farmers in the truck region urging that the watermelon acreage be reduced, as the rates on that business were not remunerative, and stating that the railroad would not undertake to handle it except in the regular cars that were brought into the territory in the ordinary course of traffic; that there would be no special trains, nor special service of any character. The melon growers at once notified the State Railroad Commission, which, in turn, requested the railroad company and the melon growers to attend a meeting to discuss the

whole subject. When the meeting convened the chairman called upon the railroads to say why they had caused so much trouble. The railroad representative, who was the aforesaid assistant to the general manager, stated that as he had been invited to attend the meeting it might be proper for whomsoever had instigated it to open the discussion. Several shippers made statements of their complaints, all admitting, however, that the melon business had become very profitable,—one grower saying that \$300 to \$500 per car was being made out of a crop. The railroad representative then made reply, showing the loss to the company from handling the business for the previous year, and stated that unless cost for the handling and something by way of profit could be obtained, the company would prefer to move other crops. He showed that it had been necessary to park 350 to 400 especially prepared stock cars in the melon territory; that it had taken a month or six weeks to gather these cars, which had to be hauled empty to the melon fields. He then pointed out that the rate per melon was less than a cent and a quarter, whereas it had cost the farmer four or five cents per melon to bring it by wagon the one or two or three miles to the railroad track. The chairman objected to some of the analyses, especially to this contrast of four or five cents per melon for the wagon haul from the farm with the cent or a cent and a half per melon for the railroad haul of two hundred miles. When the railroad man had finished, farmers from all over the room began to ask questions directly of him. They wanted to know how much they should pay to afford the railroad some slight profit. They were told 12 or 12½ cents. The chairman said: "The rate cannot be changed. It has been fixed by law at 7½ cents and that is the rate. I am here to protect the people of these counties." The railroad man suggested that his company might be willing in addition to affix the necessary slats to the stock cars and perform the switching for \$5 to \$6 per car. The farmers were willing to accept this, but the chairman insisted that

it was contrary to law, and finally said in his wrath, "If you men here are going to deal with the railroad company you can do it without me. This meeting is adjourned."

With one exception the farmers remained in the hall and expressed a willingness to pay a rate of 12 cents per 100 pounds.

Returning to the main discussion, we have found that the rates on raw materials are so adjusted as to permit the manufacture of any staple article at any logical place of manufacture. On the raw material of wearing apparel the freight rate is entirely unimportant. On the lumber that enters into building material, on the ore, coke, and limestone used in the manufacture of iron and steel the freight rate is sufficient to become an appreciable factor in the cost of manufacture. On brick, coal and cement the selling price is the higher by the amount of the freight charge, which for distances sometimes not considerable exceeds the value of the commodity at the place of production. The freight charge, even on these heavier commodities, however, is far less in proportion to the wage of the day laborer as well as to the incomes and salaries received in the United States, than in any other country. This is obviously a better test of comparison than that based upon rates of freight as expressed in money. To say that a specific rate is twenty cents in the United States, a shilling in Great Britain, a franc in France, or a mark in Germany, conveys an inadequate idea. When it is ascertained that the average wage of the day laborer in the United States is higher in comparison with the average rate of transportation than in any other country, the comparison is significant. In this country a continually increasing amount of railroad transportation can be purchased with the wage of the day laborer. With the sum of money representing the value of a given unit of any of the staple commodities of commerce, also can a continually increasing amount of railroad transportation be purchased.

That which makes possible the low freight rate of the American railroads is the magnitude of the scale upon

which the transportation is conducted. The large cars, with a capacity of from thirty to fifty tons, and the powerful locomotives that draw a score or more of these loaded cars in one train, permit an almost infinitesimal freight charge per pound or per yard that, however, yields by the carload or by the trainload no inconsiderable revenue. For example, the average weight of the carload of food products is about 30,000 pounds. If the freight on such a carload be \$300 the rate per pound would be only one cent, and there is scarcely a commodity upon which a freight rate of one cent per pound makes any difference in the retail price. As a matter of fact a carload of food products does not bring to the railroad so much revenue as \$300 unless it has been moved from a far region; for instance, from the Dakotas or Texas to New York. Specific complaint in regard to the freight rates of the United States for many years has not, except in a small minority of cases, been based on the ground that they have prevented foodstuffs from finding a market, raw material from reaching places of manufacture, or finished products from distribution. While the difference of a cent or two in the rate of freight may not in the least interfere with the conduct of industry or commerce in the aggregate, such a slight difference may perhaps determine whether a manufacturer obtain his raw material from this or that source of supply, whether a wholesale dealer obtain his stock from the manufacturer in one, or the manufacturer in another city, whether a retail dealer make his purchases from the wholesale dealer in this city or in that city. That is, for example, the prices of the products at the sources of supply being equal, a difference in the rate of freight may determine whether Cleveland, Ohio, obtain potatoes from Michigan or from upper New York; whether a factory in Louisville obtain coal from the fields of southern Indiana or central Kentucky. A carpenter in Des Moines may perhaps pay a dollar for twenty pounds of nails without knowing or caring what the freight rate may have been, or where they may have come from. A difference, how-

ever, of a few cents a hundred pounds in the rate of freight may have led the hardware dealer to have purchased the nails in Chicago or St. Louis or even directly from Pittsburg.

As the purchase of raw material tends toward the prosperity of the region where it is produced, as the operation of a factory tends to the increase of population, to appreciation in the value of real estate and the augmentation of business at the place of its location, so also does the growth of a wholesale business or of a retail business aid in the development of its surroundings. Producers, manufacturers, wholesalers and retailers naturally all desire to extend their sales, to reach further markets in competition with their rivals, and are supported in this desire by the communities to whose welfare they contribute. Any difference in freight rates that gives a producer of raw material, a manufacturer, a wholesale distributor, or a retail merchant an advantage over a competitor of another locality is therefore promptly made the subject of complaint.

The pressure brought upon the railroads by such competing producers, manufacturers and dealers has been a very important factor in the development of certain arrangements of freight rates, which we shall term the Regional Rate Structures, each of which has grown out of the various characteristics of a traffic region and has become adapted to those characteristics.

Other arrangements of freight rates which have grown out of the needs entailed by the production and marketing of certain of the principal articles entering into commerce we shall designate as the Commodity Rate Structures.

CHAPTER VII

THE REGIONAL RATE STRUCTURES

AN examination will disclose that the freight rate structure of each section of the country has been determined by its geographical situation, its material resources, its material needs, its physical relation to sources of supply and to markets, its transportation facilities both by rail and by water, and its position in the aggregate of these relations with respect to other sections of the country. The problem forced by these relations upon the railroads has been to develop that adjustment of rates which serves the economic needs of each section. In the solution, which has in every case been through long struggles and compromises between competing railroads and competing communities, the distance over which commodities are carried—that is, the length of the haul—is always a large and often the chief factor in determining the rate. Frequently, however, the length of the haul is subordinated by other factors. This is conspicuously the case with

(1) THE FREIGHT RATE STRUCTURE OF NEW ENGLAND

At the close of the Revolution the commerce of Boston exceeded that of New York. When the merchant marine of the United States was foremost on the ocean, the shipping and shipbuilding interests of Boston were the greatest in the country. Throughout a large part of the nineteenth century the city was noted for the manufacture of iron, the smelting of copper, the making of furniture and various wares from wood.

That this condition no longer exists was sharply brought to the attention of the people of Massachusetts by Governor Russell, who presented, in 1892, during

the term of his administration, a list of one hundred and thirty iron mills and factories that had gone from the State. Weymouth is now at the beginning of an effort to resurrect the shipbuilding industry that likewise had died. The smelters have migrated to the ore beds. Supremacy in the manufacture of furniture passed long ago. The prestige in grain export is maintained only by a continual struggle against advancing odds. The gain in the total imports and exports of Boston does not keep pace with that of the other Atlantic ports. It is natural that with the development of the country industry should pass to the source of raw material; that as the grain regions pursue the star of empire their product for export should go by the short and level routes to the outlets on the north and on the south. Yet it must be remembered that while New York was forging great lines of communication with Chicago, the surplus wealth of Boston was not being used to establish similar channels to that gateway to the West, but in building railroads from the West tributary to that gateway. The eastbound traffic of these western roads has been poured in increasing measure into the channels that lead to New York, Philadelphia and Baltimore. While Boston was most active in financing these lines beyond Chicago, she permitted her own direct connection with the West to consist of a single track railroad which remained a single track railroad for thirty years. There was once a project for a great and direct through line to the West, but the State laws governing investments in railroads killed it in its birth. Boston still, however, maintains an industrial and commercial eminence; the manufacturing towns of Massachusetts, southern New Hampshire, northern Connecticut and Rhode Island are prosperous. This entire section is in the same general traffic district as Boston, sharing in its advantages and disadvantages. It is pre-eminent in the manufacture of boots and shoes, cotton, woolen and worsted goods, leather articles of all kinds, paper, rubber goods, and other manufactures that require delicate and skilled workmanship in mills

and factories of elaborate design and expensive construction. A foremost requisite for the continuance of this prosperity is therefore the perpetuation of the skilled labor. That the people of these States are awake to this necessity would appear from the propositions for the establishment of industrial schools and from the attention being given to sanitation and other phases of industrial welfare.

Only to a negligible extent does New England produce the raw material of any of her industries; her population furnishes a market for but a fraction of the product. Therefore the transportation agencies must not only furnish the facilities for bringing in raw material and taking out the finished product, but the rates must be so adjusted that the raw material may be profitably brought in, and that the products may be advantageously sold in the widest markets. This is the governing consideration, because of the necessity for maintaining the manufactures of New England in competition with those of the principal competing region—that territory which extends from New York and Brooklyn through central New Jersey into southern Pennsylvania and northern Delaware.

The railroad adjustment fostering this purpose is that under which the rates on the raw material of manufacture, coming from west of a line drawn from Buffalo through Pittsburg and Wheeling, are the same to every point in New England, and but a trifle, from 2 to 7 cents per 100 pounds, higher than on that material to New York. The rates on all of the manufactured products going out of New England to west of a line drawn from Cleveland to the Ohio River are the same as the rates from New York to the region west of that line. That is, for the purpose of reaching the markets of the populous regions that lie to the north of the Ohio and west of the Mississippi River, not only is every place of production in New England placed on a parity with every other place of production in New England, but every place of production in New England is

placed on a parity with the great metropolis of the United States. The same rates spread, like a blanket, over the entire region. It is also to be remembered that to but a small extent does sterile New England now produce the food required within her confines. Here again there is dependence upon the railroads which bring in foodstuffs from the West and South at rates so very little higher than the rates to New York that the transportation charge upon the consumer's unit of meats, dairy products, grains, fruits or vegetables, is practically the same as in the metropolis.

The rates governing the interior traffic of New England are embodied in local tariffs which are issued by each road for itself and are ordinarily on a mileage basis. Along the Atlantic Coast, however, the steamboats keep the rates of the railroads between Boston and the ports of Maine to a somewhat lower level. The steamboat rates between Boston and Portland, for example, range from 20 cents on merchandise of the first class to 6 cents on that of the sixth class. The railroads meet these rates, observing the mileage basis, however, to intermediate stations, even though the rates be higher than to the further station having water communication. Thus the rail rate from Boston to a station immediately south of Portland is 21 cents on merchandise of the first class and 7 cents on that of the second class.

(2) THE TRUNK LINE AND CENTRAL TRAFFIC TERRITORY

New York, Philadelphia and Baltimore, each a seaport and the metropolis of its respective State, naturally became commercial rivals as their means of communication extended further into the interior. The Erie Canal, connecting New York with the Lakes, led Pennsylvania to devise the State Line of Public Works for the purpose of giving Philadelphia direct means of communication to the west of the Alleghany Mountains, and in turn Maryland chartered the Baltimore and Ohio Railroad Company to connect the City of Baltimore with

the Ohio River. The intense rivalry between the cities was in evidence in 1854, when the President of the Baltimore and Susquehanna Railroad, extending from central Pennsylvania toward the South, vowed that freight would never be carried more cheaply to Philadelphia than over his line to Baltimore.

The main stems of the first lines from the East led, one from New York City through the central part of the State to Buffalo, and one through the southern tier of counties to Salamanca; one from Philadelphia to Pittsburg; and one from Baltimore to Parkersburg. These were designated as the Trunk Lines and the region between the seaboard and their western termini as the Trunk Line Territory.

From these western termini of the Trunk Line railroads, lines, radiating like branches from the trunk of a tree, were built across Ohio, Indiana and Illinois toward the West: transverse lines were also constructed connecting the interior of these States with the Lakes on the north and with the Ohio River on the south.

Even in the days prior to the railroads the water communication and other advantages of location had caused Chicago to become the gateway to the West and Northwest, St. Louis to the West and Southwest, and Cincinnati to the South. These three cities, each an immediate market and a distributing center of importance, naturally, therefore, were the goals of the lines that were stretching from the Atlantic seaboard, and each of the four westward trending companies gained access to these cities over the rails of directly connecting roads. Each of these lines continually strove to carry augmenting quantities of merchandise to the West, and its endeavors were seconded by the merchants and manufacturers who sought to extend the markets of their respective cities. Eastbound the rivalry was for the shipments of grain, of which the greater portion, even until the close of the decade beginning with 1870, came from the farming lands between the Alleghany Mountains and the Mississippi River.

The competition inevitably became bitter between the railways and between the termini which they served. One railway would cut the tariff rates to the East, the others would meet the cut and perhaps make a deeper cut. The rates would be cut on traffic to the West. There would be retaliation and retaliation in return. The weakest and worst situated lines naturally had to fight the hardest and were the first and most persistent rate cutters. Throughout this period the rebate spread like a fungus: a railroad company, desiring to obtain the traffic of a heavy shipper, would offer him a secret rate; other railroads would offer secret rates to other shippers, until neither railroad nor shipper knew what rates were being paid other railroads by other shippers. Indeed one shipper would not know what rate a competing shipper on the same railroad was paying. Rate wars, beginning not long after the close of the Civil War, were almost incessant during the following decade. They applied to traffic, not only between the three great western cities and the seaboard, but developed on traffic between intermediate cities. They not only affected the through eastern and western lines, but involved the transverse lines leading north and south. These transverse lines carried traffic to the Lakes, whence it was sent east in competition with the railroads; they carried traffic to the Ohio River, whence it was sent west in competition with the railroads. Any one of these north and south lines found it profitable to compete in its northern territory with the Trunk Line leading to the East from that region by taking traffic to a junction in the South and delivering it to the Trunk Line leading east from that region, or *vice versa*. It could use the east-bound Trunk Line at the North, or the Trunk Line at the South, as a leverage wherewith to obtain return traffic from these lines and induce them to make arrangements in its interest.

Through these various causes the rates of this entire territory between the seaboard and Chicago and St. Louis and Cincinnati fell into chaos. The shippers of

neither Baltimore nor Philadelphia were willing to pay as high a rate to the West as applied from New York, nor did they regard as satisfactory the application to their cities from the West of the same rate as to New York. The main contention was that the shorter distance between their cities and the West entitled them to lower rates. After long continued conflict an arrangement was reached whereby Philadelphia was granted lesser rates than to and from New York and Boston, and Baltimore a lower rate than to and from Philadelphia: these are the Baltimore and Philadelphia differentials. Although the specific rates applying on eastbound traffic and on westbound traffic to and from these cities under this arrangement have been changed several times, the principle is still recognized and differential rates still exist. Their establishment was but one step toward bringing harmony out of chaos. The bitterness of the rivalry was in some further degree ameliorated by the fact that the growing importance of New York led the lines that originally terminated in Philadelphia and Baltimore to obtain entrance to the metropolis.

The complexity of the situation to the west of the Trunk Line termini led to conflict after conflict between the railroads there that devastated their revenue: agreement after agreement, entered into for the maintenance of rates, was broken almost as soon as it was made, with resulting demoralization. This region between the western termini of the Trunk Lines and Chicago, St. Louis and Cincinnati was designated as the Central Traffic Territory. As a Trunk Line Association had been formed for the purpose of bringing about and maintaining harmony between the railroads in the Trunk Line Territory, so also was a Central Traffic Association formed to the same end. There was, however, not only difficulty in the way of maintaining rates, but the different railroads had so interlaced throughout the territory that it was difficult to determine what rates should be maintained. For example, freight between Columbus and the seaboard could be sent by way of Cleveland and Buffalo,

by way of Pittsburg, or by way of Wheeling or Parkersburg. How the rate from Columbus to the seaboard should be made and how it should apply is but one illustration of the perplexities that existed over the entire region, and they were aggravated by the part taken in the east and west traffic by the north and south lines.

A long step toward the solution of this phase of the problem was taken in 1876 by the device of the Trunk Line Percentage System. The rate between Chicago and New York, whatever it might be, was designated as 100 per cent. The rate to or from certain principal intermediate points that were common to two or more railroads was made a fixed percentage of the rate to or from Chicago; that is, the rate from New York to Pittsburg became 60 per cent., to Cleveland 71 per cent., to Detroit 78 per cent., to Indianapolis 93 per cent., and to Peoria 110 per cent. of the New York-Chicago rate. The rates from the West to the East were also determined by these percentages from common points. That is, the rate from Indianapolis to New York was fixed at 93 per cent. of the rate from Chicago, from Detroit 78 per cent., from Cleveland 71 per cent. and from Pittsburg 60 per cent. It should be said that at first the percentages applying to the East and from the West, or *vice versa*, were not identical at every common point. The adjustment which the system obtained throughout succeeding years finally brought about this result. The percentages fixing these rates at the common points were originally nearly, if not exactly, the ratio borne by the distance over the shortest "worked and workable route" between a common point and either Chicago or New York, to the short line distance between those points. The rates to and from stations intermediate to the common, or "basing points," were made by adding the local rate to or from the intermediate point to the basing point rate.

This method of construction frequently led to the rate at an intermediate station being higher than the rate at either the basing point to the east or the basing point

to the west of that station. A north and south line would still take through east or westbound traffic, for example, from a station on the southern part of its line at the through rate applying from that station, and deliver it to an eastern or western Trunk Line at a junction on the northern part of its line even although the through rate from that junction were higher than the through rate from the station at which the traffic originated. When the Interstate Commerce Law became effective in 1887 the railroads of the Trunk Line and Central Traffic Territory, in their zeal to comply with its provisions, at once set about a general revision of their tariffs in order that no rate might be lower from a farther than from an intermediate station on the same line, or, in other words, that traffic might not be hauled over a longer distance at a lesser rate than for a shorter distance over the same line, and in the same direction. The Trunk Line Percentage System was so revised that all rates effective thereunder were based exactly upon distance—due allowance being made for a loading and an unloading charge—and in no case, under its most strict construction, was the long and short haul clause of the Interstate Commerce Law violated. This abolished the method of making rates from intermediate stations in the way theretofore customary, and it also minimized such carrying of east and west traffic, as violated this clause, over the roundabout routes formed by the north and south lines.

This arrangement worked badly from the first, disturbing industrial and commercial conditions at many places. Shippers, whose business had developed under the previous rate status, found themselves handicapped by having to pay higher rates than competitors at other places with whom their rates had theretofore been on a parity: the north and south lines chafed at being deprived of a goodly share of traffic; established channels of trade in many instances were dislocated. In 1892 a further revision of the Percentage System was begun that took into account these commercial and industrial

conditions, and it resulted, in 1896, in the adjustment which, with a few changes, is in effect at present. Rates for the eastern and western traffic are applied to groups of stations, each focused more or less directly upon a central basing point, but the rates as a whole bear only an indirect relation to distance. The long and short haul principle is still, however, rigidly observed in this territory; that is, on interstate traffic.

Under the present grouping, for instance, the 100 per cent. rate from and to Chicago applies throughout a belt of Indiana, extending southward to Louisville: the 87 per cent. rate applies throughout a "shoestring district" extending from above Ft. Wayne on the north down through Cincinnati and almost to Parkersburg on the south. One cause leading to such a northerly and southerly prolongation of a group has been the demand of a north and south line that it be not absolutely prohibited from engaging in east and west traffic in conjunction with an east and west line. This has been met by the application of the same rate throughout the length of the north and south line, thereby permitting it to take traffic at the same rate from any point of origin on its line by way of any of its junctions with an east or west line.

The Percentage System has not been strictly observed throughout the territory in that here and there rates are made by the application of specific instead of percentage differences above or below the rate from a basing point. For example, as a result of many years of controversy between competing iron manufacturers and conflict between the railroads serving the several districts, the rates to the East from the Mahoning and Shenango Valleys have been made 2 cents per 100 pounds higher than from Pittsburg, from the Cleveland district 3 cents higher than the Pittsburg rate, and from the Johnstown district $1\frac{1}{2}$ cents less than the Pittsburg rate.

The grouping under the present percentage adjustment, in combination with the Philadelphia and Baltimore differentials, has carried the rates applying to these respective cities for considerable distances back into the

interior, thus forming a Baltimore group, which includes an area extending northward through Maryland and a considerable section of southern Pennsylvania; and the Philadelphia group, which includes the stations within a radius of two hundred miles or so to the north and east of Philadelphia. The rate, for example, from the West to Altoona is the same as to Baltimore, to Wilkesbarre the same as to Philadelphia.

It will be perceived that the Trunk Line Percentage System determines the rate to or from a percentage point only after the basic rate between Chicago and New York has been established. When that rate has been determined, whether upon the traffic that moves under the class tariffs or that which moves under commodity tariffs, the rates for all intervening stations, and stations as far west as the Mississippi River crossings from Cairo on the south to Dubuque on the north, are automatically adjusted by the percentage of the basic rate applying to the group to which any particular station is assigned. All of these rates, therefore, change automatically as the basic rate changes.

The Trunk Line Percentage System affects in the main the rates upon the commodities that flow in the main traffic channels to and from the Trunk Line and Central Traffic Association Terminals. It does not determine the rates upon which the merchandise is carried in this region from the distributing centers to the retail dealers, or upon the merchandise which, originating at one, is shipped to another place in its interior. Although it often happens that such rates are influenced by the Trunk Line Percentage rates, they are primarily and in the main determined by each road for itself, subject to such oversight as may have been delegated by a State to a Public Service Commission or to a State Railroad Commission and to such modification as may be caused by one or another phase of competition. In the Central Traffic territory maximum local rates for the State of Ohio were specifically fixed by the State Legislature many years ago, and have the distinction of being lower than

any similar rates in any other portion of the United States that has population and traffic of a corresponding density. In 1896, when the revised Trunk Line Percentage System was made effective, a scale of minimum rates governing local traffic was also adopted by the lines of the Central Traffic Territory. The tariff promulgated by the Ohio Legislature restricts the local charge on commodities of the first class to 5 cents per 100 pounds up to thirty miles, but allows a handling and a terminal charge in addition, of which the railroads have not availed. This Ohio scale was extended into Indiana by some of the lines traversing both States, but has not been generally adopted by all the railroads of that State. The local rates of the railroads in Illinois are fixed by the Illinois Railroad and Warehouse Commission.

The manner in which the Trunk Line Percentage System affects the interior rates in the Central Traffic Territory is instanced by the following example: The distance from Chicago to Toledo by the short line is two hundred and thirty-four miles, the rate being determined by the Central Freight Association tariff of 1896. The short line from Chicago to Detroit is two hundred and seventy-two miles, but as Detroit takes the same New York percentage as Toledo it is accorded the same rate from Chicago in competition with Toledo. Port Huron, three hundred and twenty-five miles from Chicago, takes the same New York percentage as Detroit, and the lines leading from Chicago to Port Huron insist that its rates from that city shall be no higher than the rate to Detroit.

(3) THE TRANS-MISSISSIPPI AND TRANS-MISSOURI TERRITORY

The fan-like opening out of the channels of traffic from the East at the western termini of the Trunk Lines, broadens through Chicago and St. Louis into a rim that extends from the boundary of Saskatchewan to the line that separates New Mexico and Arizona from the Mexican Republic.

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As the lands to the west of the Mississippi River were attaining a population, Chicago and St. Louis were the principal sources of supply of the staple articles of use, and they continued to be the main distributing centers as the frontier moved beyond the Missouri River. Northern Illinois and central Iowa were naturally tributary to Chicago and southern Illinois, and central and southern Missouri to St. Louis. Throughout central Illinois, southern Iowa, northern Missouri, Kansas and Nebraska the merchants of the two cities and the railroads serving them came into competition, which waxed fully as bitter as that which had earlier developed between the great cities of the North Atlantic seaboard. There was then no common interest between the railroads extending from Chicago to the Missouri River and the railroads extending from St. Louis to the Missouri River. A succession of rate wars entailed losses of millions of dollars to their revenues and led to the formation of associations through which it was endeavored, as through similar associations in the East and at about the same time, to bring about agreement as to rates and the elimination of friction.

The cutting of rates during these wars had affected to an extent the revenues of the lines east of Chicago and St. Louis, which frequently were obliged to participate in the low through rates made by their western connections, but the adoption of the Trunk Line Percentage System protected them in great measure, as the making of the rate between New York and St. Louis 116 per cent.—originally it was 129 per cent.—of the rate between New York and Chicago determined the relative proportions that the eastern lines would accept on traffic via those cities. It devolved upon the lines leading to the West from Chicago and St. Louis to fix some basis for the adjustment of the respective rates from those cities into the competitive territory. After much contention the lines from St. Louis were accorded differences under the lines from Chicago to St. Joseph, Atchison, Leavenworth, and Kansas City, the lower Mis-

souri crossings and to the Southwest generally, which, ranging higher at first, were reduced to the gradation from 20 cents per 100 pounds on merchandise of the first class to 5 cents per 100 pounds on that of the fifth class. Rates from the East were then made the same to Omaha and Kansas City, because of the competition of these cities as Missouri River distributing centers. It will be perceived that no device similar to the Trunk Line Percentage System was applicable. That system was made feasible by the definite base line which rested upon a populous New York at the one end and a populous Chicago at the other; and also by its especial adaptability to a territory comparatively narrow in width through which the flow of traffic was in fairly direct channels. Analogous conditions did not exist in the trans-Mississippi and trans-Missouri territory; hence the system of adjustment by "fixed differences" instead of percentages.

By the time of the adjustment of the differentials between Chicago, St. Louis, and the Missouri River, other complications had arisen through the building of lines that, without passing through either Chicago or St. Louis, traversed Illinois from the east, crossed the Mississippi River at such places as Dubuque, Davenport, Burlington, and Hannibal, and thence continued west. At an early stage in the development of the Trunk Line Percentage System the rate from New York to certain of these Mississippi River crossings was as high as 122 per cent. of the Chicago rate. The 116 per cent. rate to St. Louis, plus the rate from there to Kansas City, made the lowest rate from New York to the Missouri River. The greater proportion of this through traffic under such an adjustment would go by way of St. Louis to the detriment of lines crossing the Mississippi River at the other points. These other lines naturally would not tolerate such an arrangement, but by making rates as low or lower than those via the St. Louis route would secure a portion of the traffic. To eliminate the ensuing contentions, the proportional rates on through westbound

traffic to all the Mississippi River crossings, as far north as Dubuque, were made the same as to St. Louis; and the rate via any line from the Mississippi to the Missouri was made the same as the rate between these rivers over the short line between St. Louis and Kansas City. The effect of this was to make the through rate from the East the same via any of the Mississippi River crossings, from as far north as Dubuque, and as far south as St. Louis, to any of the Missouri River points, from as far north as Omaha to as far south as Kansas City; and to make the rate the same from any one of these Mississippi River points to any one of these Missouri River points. It should be remembered that in the earlier days it was the policy of the United States government to keep the navigable rivers free, as far as possible, from obstruction by bridges, and the construction of a railroad bridge across a great river was relatively by far a more difficult and expensive enterprise than at present. Therefore many a railroad terminated at one bank of a river, and if there were rail connection from the opposite bank transferred its traffic by ferry. Such great rivers as the Mississippi and the Missouri became the natural dividing lines between different groups of railroads, and also the basing lines from which rates were calculated. That the Mississippi River was made a basing line, however, was largely caused by the necessity for making the crossings from Dubuque to St. Louis common points from the East. St. Louis was thus on this basing line while Chicago was not. The rate from the East via Chicago to Omaha, for instance, was not made by adding the rate from Chicago to Omaha to the rate from the East to Chicago, but by adding the rate from the East to Dubuque to the rate from Dubuque to Omaha. This is a cumbersome arrangement and the railroads are gradually so altering the tariffs that the dividing line extends from Chicago through Peoria to St. Louis. This is an illustration of the "sloughing off" of a rate adjustment made under conditions that have become obsolete, the railroads that once started from the western

bank of the Mississippi River having been absorbed by the lines that formerly terminated at the eastern bank of the river. Many of the through lines thus formed cross not only the Mississippi, but the Missouri River, and extend to Colorado and the farther West.

The conflicts between the lines extending from Chicago to the Missouri River were essentially duplicated by conflicts between lines reaching from Chicago to St. Paul. Here the all-rail lines from the East via Chicago to St. Paul were obliged to take cognizance of the rates from the East to St. Paul via the Lakes and Duluth. The rates between these cities from 1870 until along in the next decade underwent frequent change and were finally fixed by specific agreement between the lines in interest at 75 per cent. of the rate from Chicago to Omaha.

There was also trouble in the adjustment of the rate from St. Louis to St. Paul. Lines reaching St. Paul by a St. Louis connection only, were in opposition to the lines reaching St. Paul by a Chicago connection, claiming that the St. Louis to St. Paul rate should be little if any higher than the Chicago to St. Paul rate. They urged the competition of the Mississippi River between St. Louis and St. Paul in support of this contention. This was opposed by the Chicago lines, but after a long struggle the rate was made 105 per cent. of the rate from Chicago to St. Paul. The development at Kansas City and the growth of traffic between that center and the Twin Cities—the rates to and from St. Paul and Minneapolis are always the same—introduced another element into the problem which was disposed of by making the rate between Kansas City and St. Paul 25 cents higher on merchandise of the first class than between Chicago and St. Paul. Other adjustments have been made to points in the interior of this triangle; for example, the rate from St. Louis to Des Moines is a percentage of the rate from St. Louis to St. Paul; the rate from Chicago to Des Moines is a percentage of the rate from St. Louis to that city; and the rates from Chicago to in-

terior points in Iowa, such as Cedar Rapids, Ottumwa and Marshalltown, are in fixed relation to the rates from Chicago to Des Moines. The rate from Chicago to Sioux Falls is 104 per cent. of the rate to Sioux City, and to Mankato a fixed amount higher than St. Paul. That is, while in the Trunk Line and Central Traffic Territory the rates are mainly adjusted on a percentage basis, fixed differences being used where the percentage system is not entirely suitable, in the trans-Mississippi territory the rates are mainly adjusted by fixed differences, percentages being applied in a minority of cases where their use is preferable. In either territory a change in a rate between two commercial centers results automatically in the changing of many other rates between many other centers.

As the traffic developed between the lower Mississippi region and the Missouri River, the rates from Memphis to Kansas City were made 2 cents less than to Omaha, and from Paducah, Columbus, Cairo, and Evansville 2 cents less than from Memphis.

The adjustments under the system of fixed differences have resulted in the grouping of stations, just as the adjustment under the percentage system resulted in groups in the Trunk Line and Central Traffic Territory. The Burlington rate, for example, applies to Davenport, Moline, and other stations in the Burlington group; the St. Louis rate to Alton, and other stations in the St. Louis group; in eastern Kansas and western Missouri the Kansas City rate applies at many stations; and on many kinds of traffic the Omaha rate applies to Lincoln and intermediate stations.

The rates from the commercial centers to the stations beyond the Omaha group in Nebraska, and beyond the Kansas City group in Missouri and Kansas, are in some instances made by adding the local rate from the Missouri River to these stations to the rate to the Missouri River; that is, by a combination on the Missouri River. In many cases, and especially to the principal towns, such as Wichita and Wellington in Kansas, the rate from

St. Louis is made a percentage of the combination rate, 95 per cent. perhaps, or, in some cases, as low as 80 per cent. of the combination on Kansas City. The lower percentages usually apply to points to which there is a line from St. Louis that does not pass through Kansas City. Rates are thus made either on the Missouri River combination or a percentage of that combination as far west as Colorado.

The far-reaching effect of the rivalry between Chicago and St. Louis is shown by the fact that the rates are the same from these cities to Butte, Helena, Anaconda, and Great Falls, the Montana Common Points. That is, a through rate is common to each of these cities and therefore is the basis for rates to points beyond.

Denver, Colorado Springs, Pueblo, and Trinidad are the Colorado Common Points to and from which the rates on through traffic are the same. This has come about because one system of railroads passes through each of these points from the north to the south, and another passes through each of these points from the south to the north, it therefore being impossible for either line, in competition with the other, to charge a higher rate to one of these points than to another.

Denver is the first city of importance in the direct westerly trend in whose commerce the Atlantic coastwise lines are an important factor. To secure traffic in competition with the direct rail lines by way of Chicago and St. Louis, the coastwise steamers from New York to Savannah, in connection with the railroads leading west from Savannah, established differentials under all-rail rates ranging from 39 cents on merchandise of the first class to 10 cents on that of the fourth class. This differential was met by the vessels running from the Atlantic seaboard to Galveston in connection with the rail lines from Galveston to Denver, and is still in effect both by way of Savannah and by way of Galveston.

Rates to stations beyond the Colorado points are made by adding the local rates from the common points to these stations to the rates to the common points. This

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method applies as far as Salt Lake City, to which the rates from the East are affected by the vessel rates from New York to San Francisco. The rates to stations in Wyoming and Montana are so adjusted that they may obtain merchandise from either Denver or Salt Lake City on a parity, so far as rail rates are concerned.

The rates from the East to Santa Fé and Albuquerque are determined by the vessel rates to Galveston, plus the rail rates from that port. The rates to the further interior stations of New Mexico and eastern Arizona are made by adding the local rates from Albuquerque to the through rates thereto.

Throughout the entire region west of the Missouri the railroads have endeavored, by making "jobbers' rates," which apply on merchandise distributed by wholesale merchants, to permit each distributing center to reach the markets it could fairly expect to reach in reasonable competition with another distributing center.

The rate structure outlined in this section is that applying in the territory to the west of Chicago and St. Louis, for the greater part on through westbound traffic; that is, on the merchandise consisting largely of manufactures of the various kinds that flow from east of the Mississippi River for distribution among the population in the Mississippi Valley and to its west as far as the Rocky Mountains. The products that flow to the East from this vast territory are principally grain and grain products, livestock, and meat products, wool, lumber, and bullion. Each of these great staples of traffic moves under a special freight rate structure that has developed to meet the peculiar requirements arising out of the conditions of its production and distribution.

(4) SOUTH OF THE OHIO AND EAST OF THE MISSISSIPPI

In the Southeast problems of rate adjustment presented phases still different from those of the Trunk Line and Central Traffic Territory, or of the trans-Mississippi and trans-Missouri region. The flow of the traffic is neither

predominantly east and west nor north and south, and the competition of water craft affects the making of rail rates at more points than in any other section of the country. From Virginia to Florida the lands that slope from mountain to savanna are washed by the Atlantic Ocean, and the westward continuation of this lowland belt by the Gulf of Mexico. Before the days of the railroads there was communication by the Ocean and the Gulf between the North Atlantic cities and Norfolk, Richmond, Wilmington, Charleston, Savannah, Jacksonville, Pensacola, Mobile, and New Orleans; there was communication by river between the Ocean and Columbia, S. C., Augusta and Macon, Ga.; between the Gulf and Columbus, Ga., Montgomery and Selma, Ala.

A very large proportion of the wearing apparel of the people of this section—the fabrics and the made-up garments, the hats, and shoes; and nearly all of the smaller manufactures, the more delicate appliances and bits of mechanism—come from the New York and the New England district. The effect of the communication by coastwise vessels between the northern and the southern seaports keeps down the rates of the railroads, not only to the ports, but to the interior stations which can be reached by the rivers or by the rail lines extending from the ports toward the interior.

The rates are the same to-day via rail and via water from the North Atlantic ports to Norfolk, the rate from New York on freight of the first class being 32 cents per 100 pounds. From New York to Brunswick the all-rail rate is 85 cents, the all-water rate 65 cents; to Savannah the all-rail rate is 82 cents, all-water rate 55 cents. To Augusta and Columbia the all-rail rate is \$1.08, and to Macon \$1.14; while the water and rail rates are, to Augusta and Columbia 96 cents, to Macon \$1.02. The all-water rate to Mobile and to New Orleans is 70 cents; the all-rail rate to Mobile 75 cents, to New Orleans 95 cents. To Savannah, Mobile, and New Orleans practically all of the traffic from the North Atlantic seaboard is carried by water.

The railroads are obliged to make approximately the same rates as the water routes to the points having water communication if they desire to carry any of the traffic. To make the same rates to the intermediate stations would be to reduce the revenue from the rail traffic to a water basis, which the railroads cannot by any means afford to do. The rate to an intermediate station is, therefore, in many cases, made by adding the local rate from the water point to that station, even though this make a higher rate than to a water point beyond. That is, the water point is a basing point, and rates to points beyond are made by combining the local rate from, with the water forced rate to, the basing point.

An exception to this practice lies in that adjustment of rates which followed the completion of railroads leading from the Central Traffic Territory to Norfolk and to Newport News, harbors through which it was desired to do an export business in grain and grain products, meat and meat products from the West. That they might share in this traffic in competition with the ports to the North, these lines made the rates from the West to Newport News and to Norfolk the same as the differential rates from the West accorded by the Trunk Lines to Baltimore. The rates via these lines for local shipment to the interior of Virginia, because of the sparse population and the scant traffic, were so much higher than the low differential rate to Baltimore that their rates from the West to stations far back in Virginia exceeded that rate which they had applied on traffic to their termini. When the Interstate Commerce Law took effect these lines, like their neighbors in the Trunk Line Territory, hastened to observe the strict construction of the long and short haul clause, and, therefore, to all intermediate points to which the rates from the West had exceeded the rates to their termini, they reduced the rates to a level with those at the termini. This has made the rates from the West the same to Roanoke, Lynchburg, Richmond, Petersburg, and Nor-

folk, which, in the parlance of the traffic officers, are known as the Virginia Cities. Rates from Chicago to points immediately south of the Virginia Cities make by combinations on those cities, while rates from Cincinnati and Louisville are lower than from Chicago by fixed differences; lines from the West that reach these cities over the more southerly and longer routes are obliged to carry traffic at the rates thus made.

Basing points also arose through the extension of the early railroads. These, at first, in the Southeast, as elsewhere, were short local roads, taking the place of the stage and wagon lines in the carrying of traffic between the seaports and the adjoining territory. That they might serve a wider area these local roads were extended; every here and there a local road extending from one distributing center, would cross a local road extending from another distributing center. Not only the roads, but the respective distributing centers, would compete for the business of the point of intersection and its vicinity. For instance, as the line from Augusta reached Athens, the line from Macon reached Athens, and lines from Richmond and Norfolk, each of these cities and each of these lines would compete for the trade of Athens. Competition would make the rates to Athens, which would, therefore, become a basing point. The rate to a point beyond would be made by combining the competitive rate to Athens with the local rate from Athens to that point. The rate to an intermediate point was also made in this way when the back combination on Athens was less than the normal rate to the intermediary point.

Yet again, in some cases, as a railroad extended to a town in the proximity of another town served by a competing railroad, it has had to make the same rates to it that its competitors have made to the other, in order that its merchants may be placed on a parity with the merchants of the other town in supplying merchandise to the consumers in the intervening country. Such competition, in many instances, has made a basing point of

such a town, although it may be served by but one railroad.

These factors in the adjustment of rates in the Southeast, while unlike, are entirely analogous to similar factors which produce like results in many parts of the North and West, and the rates to and from the basing points of the South facilitate the distribution of merchandise just as do the jobbers' rates in the West. Here, as in the West, there is the continual pressure of smaller towns that are not basing points for rates that will enable them to do a jobbing business. Although it has been severely criticised, this system of basing points could not have developed solely for the benefit of the railroads. The railroads must serve the needs of commerce; no artifice of man can stem the working of economic law for any considerable time throughout so considerable a territory. It was once universal in the South, and still is customary at many places, that the wholesale dealer allow credit for a long time to the retail dealers in his vicinity; that is, that he carry them. If the basing points be abolished and a scale of rates fixed that uniformly increase with distance, the source of supplies will be driven back to the source of production. The retail dealer will no longer be able to keep as great a variety of merchandise on the same capital, and as he will not be able to so promptly replenish his stock, it will no longer be so fresh.

The development of the interior portion of the South, the region between the Ohio and Mississippi Rivers and the mountains, naturally was but in its early stages when the seaboard had attained a considerable population. Before railroads were built into this interior region merchandise was brought from the East via Pittsburg and the Ohio River, and distributed by means of the wagon routes and the smaller rivers from Cincinnati, Louisville, and other distributing centers that had grown at points of natural advantage. Here, as elsewhere, the first railroads were short local lines, extending from the distributing centers and charging local rates. As they were con-

structed southward their rates were held down by the rates of the boats on the Mississippi River, in much the same manner as were the rates of the lines along the Atlantic Coast by the rates of the coastwise vessels. This affected the rates not only to Memphis, New Orleans, and Mobile, but to Montgomery and Selma, to which there is navigation by river from the Gulf. Indeed, the rates even from Louisville to Nashville were modified by the Cumberland River, which is navigable from the Ohio to Nashville.

The rail rate on merchandise of the first class from Cairo to New Orleans, determined by water competition, is 75 cents. The competition of the river is now effective only upon such low class freight as coal, cement, brick, and various iron articles southbound; and northbound, on lumber and molasses; but the potential competition still influences the rate adjustment. The line to New Orleans is paralleled by a line to Mobile, which, to protect the interests of that city, and consequently its own traffic in competition with New Orleans, keeps the rate to Mobile the same as the rate to New Orleans. The river-compelled rates are not used for traffic to intermediate stations, but, as in the Southeast, the rates to competitive water points are used as bases for rates to local points beyond, notwithstanding that rates to such local points may be higher than to a farther point having water competition. For example, the rate from Cairo to Jackson, Mississippi, is higher than to New Orleans, and rates to intermediate points are fixed in relation thereto.

Upon the rate from Cairo to New Orleans the rates from the cities to the north of Cairo are determined by fixed differences, St. Louis being 15 cents higher than Cairo, or 90 cents, and Chicago 20 cents higher than St. Louis, or \$1.10.

As the area nearer the mountains attained some development, particularly after the utilization of the iron and coal deposits, the railroads extended eastward from the Mississippi region and the Ohio Valley, finally through Chattanooga, Knoxville, and Asheville, leading

up to connection with the railroads that penetrate the Southeast. These railroads across the mountains had, from the start, scant traffic, but their connection with the southeastern systems permits them to carry grain and grain products, meat and meat products from the West and Northwest, not only into the Middle South, but into the far Southeast. They also opened channels for the manufactures in the production of which Chicago, St. Louis, Cincinnati, and Louisville were developing. Thereupon ensued complications. Grain and grain products, meat and meat products had previously reached the Southeast by way of the North Atlantic seaports and thence by the coastwise transportation via the southern ports. The low Trunk Line rates and the coastwise vessel rates made lower through rates to the far Southeast than would be accorded on a normal rail basis across the Ohio River and over the mountains. To take such products to the seaboard these rail rates had to be adjusted to meet the Trunk Line and coastwise rates to the far Southeast. To the interior, however, normal and, therefore, higher, rates were charged.

These lines from the Ohio River were not obliged, under any stress of water competition, to make as low rates upon manufactured articles to this southern interior as the coastline railroads from the Northeast were compelled to make by reason of the coastwise competition. The manufacturers and wholesale dealers of Chicago, St. Louis, Cincinnati, and Louisville have, however, continually besought the railroads to make the same rates per mile to this territory as are made to it by the lines from the East. The railroads responded by making the same rates in the aggregate from Louisville to Atlanta as are made from Baltimore to Atlanta. The situation is still the cause of bitter contention.

Atlanta being the great commercial center of the interior South, is the focal point of rate adjustment from every direction from which traffic reaches this southern interior. The customary era of conflict ended in the rates being made the same to Atlanta from Cincinnati,

Louisville, Evansville, and Cairo. St. Louis is 23 cents, and Chicago 35 cents higher than Cairo, traffic from these cities passing at the same rate through any of the Ohio River crossings. The rate from Memphis is 4 cents less than Cairo, and from New Orleans the same as from Memphis. The rates to and from other cities in this central part of the South are adjusted in relation to the rates to and from Atlanta.

(5) TEXAS

Even had the Lone Star State formed part of the original Union, it is doubtful whether railroad building within its borders would have proceeded along different lines. The first settlements, naturally, were along the Gulf; of the original ports of entry, two or three were literally blown away, and because of its excellent harbor, Galveston outstripped the others. Merchandise brought by vessel from the East to Galveston was distributed by wagon, and then there was the tendency to shorten the wagon haul by sending the boats up the Bayou to a landing within but a few miles of Houston.

The first railroad construction was of the familiar local line leading from the seaport. It took away from the Bayou the traffic in high grade merchandise and carried it into the interior from Galveston and from Houston. Traffic was of small volume, and rates necessarily high. For distances of forty or fifty miles the railroad could not charge more than the tolls of stagecoach and wagon, or rates that would preclude the farmer from using the railroads in preference to his own conveyance. The rates from Houston, therefore, were scaled for shorter and rather sharply advanced for longer distances, until was reached the limit that the traffic could pay and find a market. As the railroad was extended the application of this rate was extended, it thereby becoming the maximum rate charged to any station beyond that to which it first applied. The designation "maximum" is here used in accordance with the Texan usage to indicate

the highest rate charged for a commodity for any distance. Ordinarily a "maximum rate" in railroad nomenclature means the highest rate that can legally be charged between any two places, the railroads being free to charge a lesser rate at their discretion. In Texas the maximum rate for intrastate rate traffic is fixed by the State Railroad Commission as the specific rate that must be charged.

As St. Louis progressed as a distributing center, railroads were built from that city toward the Southwest. The government decreed that one railroad might be built across Indian Territory from the east to the west and another from north to south. There was a race; the first line to cross the Territory from the north connected at Denison with the line that had been extended from Houston, but soon continued its own rails to the southern and southwestern part of the State. Other railroads from St. Louis passed through Missouri and Arkansas into Texas. The merchants of St. Louis desired to distribute and these railroads to carry merchandise into Texas. The merchandise sold by the St. Louis jobbers, as well as that obtained via the Gulf, came almost entirely from the East. To enable her merchants to reach the Texan territory it was necessary that the southwestern railroads make rates which, in conjunction with those applying over the Trunk Line from the East, at least approximated the through transportation charge to the Texas interior made by the vessel rate to and the rail rate from the Gulf. Rates from St. Louis to the northeastern corner of Texas were also held down by the sum of the water rates from St. Louis to New Orleans via the Mississippi, from thence via the Gulf and the Red River, along which steamboats then ran to Shreveport and beyond. In other words, a line from St. Louis could not compete in central or southern Texas at a higher aggregate rate than applied via the Gulf, and a railroad from the Gulf could not compete in central and northern Texas at a higher aggregate rate than applied over the route by way of St. Louis. There was

a period of struggling between the different interests, of rebates, stealthy cutting of rates, and open fighting. The result was, that the lines from St. Louis made the same rate to all stations south of the Texas border. This, of course, was in competitive relation with the maximum rate applying over much of the line leading from the south.

As railroads were built and extended, one line would reach station A by passing through station B, and another line would reach station B by passing through station A, and so on throughout a ramifying network. The result was the application of the same rates to the stations in the entire area covered by the network of the lines that extended from St. Louis. These various causes worked together to produce what is known as the Texas Common Point Territory, the very considerable area to all stations in which the rate from St. Louis is the same; to all stations in which the rates from Kansas City, Memphis, Chicago, and other cities in the central territory and in the East are respectively the same, and to all stations in which the intrastate rates of Texas are the same after they have attained the maximum.

This situation was found in existence by the Texas State Railway Commission at the time of its inauguration in 1890, and has been developed and modified by that body in a way especially to conserve what it considers to be the interests of the citizens of the State. It was the idea of Judge Reagan, in his time the dominant statesman of Texas, that it would be inimical to the welfare of the State to have its merchandise distributed from one or two great distributing centers. He believed that, as it is by nature an agricultural State and, therefore, of a diffused population, the needs of that population could be better supplied from a considerable number of small commercial centers so distributed that there would be no large area without such a center within its limits.

The adjustment of rates under the Texas Common Point System is eminently adapted to the furtherance of

Judge Reagan's desire. Long distance traffic from any place outside of the State pays the same rate to any place in the Common Point Territory and, therefore, in so far as railroad rates are a factor, any town in this territory is as well qualified to be a jobbing point as any other. As a matter of fact, jobbing centers have arisen every forty or fifty miles, the controlling cause that has led to one town instead of another attaining this dignity frequently being the conjuncture of two or more railroads. The point of juncture being both able to obtain and to distribute merchandise over a variety of routes has developed a greater number of mercantile establishments which have attracted an increasing population. Such centers are Ft. Worth and Dallas in the northern part of the State, Waco in the center, and San Antonio in the south. A principal mercantile city in the State, however, is Houston, which began to outstrip Galveston as a commercial center when freight was first carried from Galveston via the Bayou. Its use made Houston the city, Galveston the seaport. Houston became the market of concentration for the products of the State, whence they were taken in barge-loads to outside the bar at Galveston and loaded into vessels. The railroads cut the cotton rate in competition with the Bayou, but a charge in all cases was made for the carriage from Houston, in competition with the Bayou, in addition to the rate from the plantation to Houston. Although this rate from Houston has fallen from \$3.00 or more per bale to but 30 cents, the tariffs are still constructed on the basis of a separate charge between Galveston and Houston. It is at Houston, therefore, that the gradation that leads to the intrastate maximum rate to the interior begins and where the application of the maximum rate from the interior ends. The building of a railroad from Galveston to the Southwest complicated the situation by the application of the Houston differential to the rates from Galveston along this road. The State court has held, however, that if such traffic does not pass through Houston the differential does not apply.

Not only does the common point rate system put all distributing centers on a parity, in so far as the procuring of merchandise over long distances is concerned, but, through the scaling up of the intrastate rates to a maximum, it practically puts every distributing center, in so far as the distributive rates are concerned, on a parity with every other distributing center. It gives each center the advantage of distribution in the radius of the graduated rates, but in the region beyond, that is, in the region to which the maximum rate applies, each distributing center is on a parity with every other distributing center. To illustrate, Ft. Worth and San Antonio obtain merchandise at the same rate from St. Louis, and San Antonio and Ft. Worth obtain merchandise at the same rate from Houston. Assuming that the radius of the scaling rates averages two hundred miles, the merchants at Ft. Worth naturally command the trade within a radius of two hundred miles of that city, and the merchants at San Antonio the trade within a radius of two hundred miles of that city. But at any point farther than two hundred miles from either city, no matter in what part of the common point area it may be, the merchants of Ft. Worth and San Antonio compete on a parity, in so far as the freight rate is concerned.

It will be perceived that the competitive factors affecting the rates on through traffic from the Atlantic seaboard to Texas are very much the same as those affecting the rates on through traffic from the Atlantic seaboard throughout the Southeast. In the latter case the railroads extending through Virginia, the Carolinas, and the farther South are not remote from the ocean which they parallel: their rates are held down not only to such distant points as Mobile and New Orleans, but to intermediate points along the coast and in the interior to which there is direct water or rail communication from the coast. This condition accounts for the generally low level of rates and the numerous basing points through which the distribution of merchandise is highly decentralized. In the former case it is the rail lines far to the

inland, those by way of Pittsburg or Buffalo or Wheeling and St. Louis, that compete for the traffic of Texas with the water lines that ply around the Floridian peninsula. The high level of rates that originally existed in Texas led to the formation of the Texas common point system, which has also led to the numerous jobbing centers through which the distribution of merchandise is highly decentralized. One point of resemblance to the situation in the Southeast exists in the fact that the rates from the North to Houston and Galveston are lower than to the intermediate Texas points. This exception to the common point system was originally made because of the water rates down the Mississippi River and via the Gulf of Mexico.

The original high level of the intrastate rates has been modified, in some cases radically, by the Texas State Commission, which has absolute power over all rates within the State. It has reduced maximum rates on both classes and commodities, and has, in many cases, modified the distance throughout which the rate is scaled before reaching the maximum. This distance, with certain exceptions, is two hundred and forty-five miles on merchandise taking the class rates; one hundred and sixty miles on cotton; one hundred and forty miles on flour, grain and hay; seven hundred and ninety miles on coal; one hundred and eighty miles on fruits, melons, and vegetables; and so on, through the list of commodities that move in any considerable volume. Where it is necessary that a shipment pass over the lines of two or more railroads a small additional charge is allowed, except that when the common point distance is reached the rates are the same over a single as over two or more lines.

The area embraced in the common point territory has changed from time to time, the desire of the railroads being to contract it, the pressure of commercial conditions to enlarge it. At present it extends from the Gulf to a line drawn from Amarillo in the Pan Handle of Texas, through Big Springs, San Angelo, Brady,

Llano, San Antonio, Laredo, and Corpus Christi. It includes the population that represents about eighty-five per cent. of the consuming capacity of the State. The maximum rates apply from all points within to the boundaries of this area. To points in the narrow belt lying beyond these boundaries the rates are made by adding rates that increase with distance, to the maximum rates.

Of recent years the growth of the cities in the Mississippi and Ohio Valleys and their progress in various lines of manufacture has led to their supplying Texas with an increasing proportion of its manufactured articles. The rates from the various cities have been placed at certain fixed differences above or below the rates from St. Louis. The rate from Kansas City is the same as from St. Louis; from Louisville 11 cents higher; from Cincinnati and Chicago 20 cents higher; from Detroit and Cleveland 40 cents higher, and from Pittsburg 50 cents higher: the rates from Memphis and New Orleans are each 10 cents lower than from St. Louis.

It will be perceived that the application of the same rates on interstate traffic to and from all places in the Texas common point area creates a situation resembling that under which the railroads serving New England make the same rates on raw material to all places, and the same rates on manufactured products from all places in that section. In this case the railroads are forced to the sacrifice entailed by extending the application of a low rate over a considerable area by the necessity for supporting the New England industries. There is no corresponding pressure upon the railroads of Texas and their traffic, as yet, is but scant in comparison with that of New England. Moreover, the local rates of New England bear no analogy to the intrastate rates of Texas, which are no longer at the level which led to the adoption of the intrastate maximum rates.

The increase in the traffic into the State from the North is leading to doubt whether the railroads are justified in the continuance of the common point system. It is argued that the equalization of a distant dis-

tributing point with a nearer distributing point in the rates on inbound traffic works an injustice both to the railroads and to the nearer distributing point; that the equalization at the distributing points, in any event, is obtained at the expense of the railroads, which are no longer forced, by economic stress, to maintain such equalization. It is argued that the development of the industries and commerce of the Middle West, and the increasing population of Texas, justifies the railroads in making lower rates to the cities at the northern border than to those in the interior of the State, and lower rates to the interior points than to those in the south, and that, therefore, there should be some arrangement that will permit the roads from Chicago and St. Louis to have the traffic destined to the northern part of the State and the roads from the Gulf to have that destined to the southern part of the State. A tendency in this direction is already manifest by the establishment of rates on grain that apply in fifteen groups throughout the State. The difference in the rate from Kansas City is so slight that San Antonio, three hundred miles further south, pays but three cents per 100 pounds more for flour or grain than Ft. Worth. Grain, however, comes into the State only from the North. The lumber rates are also adjusted to apply to groups that range from the East to the West, the Texas lumber largely coming from Louisiana mills.

The breaking up of the common point system would doubtless be vigorously resisted by the distributing centers which are farthest from the sources of supply, and doubtless, also, by the Texas Railroad Commission, in that, by causing a redistribution of the wholesale trade of the State, the various distributing centers would no longer be on an equality.

That excessive degree of decentralization of distribution, however, which prevents any distributing center from attaining marked growth, rather restricts such small distributing centers as exist to dealing in the more staple merchandise. This tendency is conspicuously manifest in

Texas, no one of the towns being a market adequate to carrying the finer manufactures and higher grades of miscellaneous products.

The Texas Railroad Commission vigorously upholds the interests of the Texas jobbers and uses its power over the freight rates of the State to that end. For example, because of the restricted markets, neither dry goods, hats and caps, boots and shoes, nor carpets are purchased in carload lots by any wholesale merchant of Texas, except, perhaps, by a firm or two in the very largest cities. The jobbers, however, persuaded the Commission to make a carload rate of 49 cents, which was 38 cents lower than the less than carload rate. By combining their shipments at New York the jobbers use this carload rate from Galveston, thereby obtaining a through rate 38 cents lower than by paying the 87-cent rate, which properly applies to what, in reality, are their less than carload shipments. Another example is offered by an occurrence of a year or two ago, when the railroads in the Central West found that because of the exceptionally low rates prevailing from the eastern seaboard by water to Galveston on wire and nails, the manufacturers of the eastern cities had an advantage over the manufacturers of the Central West. The rail lines from Ohio, Indiana, and Illinois and St. Louis, to retain a portion of this traffic, reduced the wire-nail rates from 55 cents to 43 cents—that is, 12 cents—per 100 pounds. The Texas Commission thereupon immediately reduced the intrastate rates 12 cents per 100 pounds. The railroads were, thereupon, confronted with the identical situation that had faced them before. They pointed out the situation to the steamship lines, who agreed to make an advance in the rates from the East to Galveston that would permit the restoration of the rail rates previously in effect. This was done, and the Commission requested to restore the intrastate rates to the former basis. The Commission, however, said that the rate as reduced gave the railroads sufficient compensation for handling the wire and nail traffic, and refused to make the restoration, the re-

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sult being that the especially reduced rates on wire and nails continue in effect.

Some years ago, prior to the passage of the Elkins Law, the steamship lines were asked for a lower rate on canned goods by canneries of the East, who produced the greater portion of that merchandise used in Texas. Upon being refused a concession in the rates, these Eastern canneries chartered schooners to handle the canned-goods traffic, the rates via schooner to Galveston, and from Galveston by rail, aggregating less than the rates from the canneries of Illinois, Indiana, and Ohio. The railroads engaged in the traffic from this region immediately reduced their rates to permit these establishments to continue to market their goods in Texas. When the attention of the Commission was called by Texas local shippers to the reductions from the Central West, it established an intrastate rate of 3 cents per 100 pounds as a maximum on canned goods. This aggregated a revenue of \$6 per car of 20,000 pounds on canned goods between any two points in the State, even although the movement be over two or three, or more railroads, and for a distance of from 400 to 600 miles.

These reductions were made under an Emergency Act whereby the Texas Railroad Commission is empowered to set aside any local rates in the State, and to substitute emergency rates at its discretion, without giving the railroads a hearing or any reasons for their action. The result is that the railroads often do not make temporary concessions for the benefit of particular movements of traffic, in the fear that the temporary basis will be used by the Commission as a standard for the permanent adjustment of local rates. That is, if an interstate rate should be so reduced as to give the shipper of another State an advantage in reaching the Texas markets, the Commission would reduce the intrastate rate to a point that would offset that advantage and restore it to the dealer in Texas. When various increases in the interstate rates from the Middle States were made effective August 10, 1908, the Commission considered offsetting

them by reductions in intrastate rates. One commissioner favored such action, but the other two, restrained only by the fear of a federal injunction, voted against it. In other words, it is the avowed policy of the Railroad Commission of Texas to so adjust the freight rates of the State that the citizens of the State to the greatest possible extent shall be the beneficiaries of its commerce. In short, it uses the intrastate rates of Texas as a protective tariff in the interest of its shippers, and it has so used them at times in apparent disregard of the effect upon the revenue of the railroads. It states that the local graduated rates are so high that the railroads can afford to apply the maximum rate to the innumerable stations in the thousands of square miles included in the common point area.

The Texas Railroad Commission, when it holds a hearing, sits as a court before which witnesses appear for and against the railroads. Unlike a court, however, their testimony is not taken or made a matter of record by the Commission, that body rendering its decision as the evidence or other considerations may have affected their minds at the time of hearing.

(6) THE PACIFIC COAST AND THE TRANS-CONTINENTAL TRAFFIC

That portion of the United States which lies between the Rocky Mountains and the Pacific Ocean, in its central and southern reaches produces both citrus and deciduous fruits, nuts and raisins, prunes and figs, melons and vegetables. Deciduous fruits are also grown in the northern sections of California, in Oregon and Washington, as are wheat and other grains in large quantities. Formerly wheat from California was exported to Europe, sometimes to the extent of one million tons in one year. Lately, however, the production of wheat in this State has only exceeded its increasing consumption by a surplus which is exported to Central and South America, and to the Orient. Oregon and Washington produce not

only large quantities of fine deciduous fruits, but wheat, which is principally converted into flour and exported to the Orient, although more or less of the grain is forwarded direct from North Pacific Coast ports to Europe. The timber of California, Oregon, Washington, Idaho, and even western Montana, is unexcelled in quality and would seem to be almost inexhaustible. Large deposits of petroleum oil have been found in California, compensating in large measure for the lack of coal. This oil is used for fuel, and a considerable quantity is refined, which, in part, is exported to the Orient. Hops, wool, hides, and leather are all produced in these States for market in the Eastern States and in Europe. California was one of the first, if not the first State, to successfully produce sugar from the beet, and there are now large beet-sugar refineries in the southern and central parts of the State, whence hundreds of thousands of tons are annually shipped to the territory east of the Rocky Mountains. California also refines and ships to the east cane sugar from the Hawaiian Islands. The wine-making industry of this State produces large tonnage, the wines being marketed throughout the United States and even in Europe.

Aside from these products, the Pacific States do not produce very many of the things needed to satisfy the material wants of its population. Of the articles usually included in the terms "general merchandise" and "manufactures," such as clothing, furniture, tools, and mechanical appliances in general, machinery and implements, perhaps 75 per cent. or more are supplied by the States lying east of the Missouri River. Before the completion of the Pacific railroads these supplies were received almost wholly from the territory lying east of Pittsburg and Buffalo, but since then the sources of supplies have been drifting westward, and to-day perhaps 75 per cent. of the goods that used to be supplied by the territory east of the Alleghany Mountains is now supplied from the territory lying between that range of mountains and the Missouri River. Dressed meats and some grains are obtained

from the Missouri Valley, as well as a very large proportion of the dressed poultry and of the butter, eggs, and cheese.

The problem of the railroads serving the Pacific Coast is, therefore, to provide that adjustment of outbound rates which will stimulate the consumption of her products, and of inbound rates that will bring to her people the commodities which they require without undue enhancement of the price. To the former end the rates of the railroads on the products of the soil are kept at a low level by the fact that they are in competition in every market at one time or another with products of the soil of other sections, and by the fact that at no time in any market can a price be obtained for them that will enable the railroads to charge a high rate and yet yield sufficient return for the growers to encourage them to continue in production. To the latter end the railroads have been forced to make low rates because of the competition of the vessel lines from the Atlantic seaboard.

The water competition, which forces low rates on the merchandise brought from the East, had its roots in the service of the clipper ships which supplied the wants of the straggling settlers before there were railroads on the Pacific slope. These ships sailed from New York around Cape Horn to San Francisco,—the pioneers taking their cloth, bacon, axes, and saws by the waterways as far as possible, thence by wagon to the far interior. Thus the fact that Sacramento, on the Sacramento River, was the nearest, or otherwise most favorable point of distribution to the mining regions which, at that time, constituted the most populous section of the State, accounts for the first railroad in California being built toward the interior from that city, instead of from a seaport. This first railroad, completed in 1856, ran from Sacramento to Folsom, in the direction of the gold fields. The next railroad, which was opened early in 1869, extended from the port of San Pedro to what was then the adobe village of Los Angeles. Long before the road from San Pedro was constructed, however, men

of enterprise had pondered over an all-rail route to connect California with the East. The first through transcontinental line was completed on May 10, 1869, and immediately entered into competition with the vessel routes for the traffic between the Atlantic and the Pacific Coasts.

The rate per 100 pounds on first class merchandise from New York to San Francisco was, at first, \$8.00, but was very soon reduced to \$6.00. In entering the field of transportation these so-called transcontinental lines and their connections encountered the competition of sailing vessels following the route via Cape Horn, and of the long-established steamship and rail line by way of the Isthmus of Panama, the former consuming an average of 120 days, and the latter from 26 to 45 days in performing the service from New York to San Francisco. The means of transportation available previous to the completion of the Pacific roads concentrated the merchandise business into the hands of a few firms with large capital, because it was necessary that large stocks be carried to San Francisco and large stocks kept on the sea. The California jobbers who bought their goods in the East were termed importers. The completion of the Pacific Coast roads thus found the business of the importer in few and very strong hands. It did not take long to demonstrate that whatever rates were made for the transportation by the all-rail routes, the rates by sea, owing to the much lower cost of the service, could be and were made very much less. It naturally became the practice of the importing merchant to divide his business between the three available routes—via Cape Horn, via Panama, and all-rail. He was relieved, to an extent, from the necessity of carrying large stocks. That relief was not welcomed, because of the opportunity afforded the small merchant, who, by the use of the railroad, could carry adequate stocks on smaller capital. In dividing his business, the importing merchant would obtain the goods peculiarly needed for a particular season, and such goods as were necessary to promptly replenish his

stocks, by rail. These, however, did not amount to more than 20 per cent. or 25 per cent. of his total importation. Another 25 per cent. he would obtain by the next shortest route, that via Panama, but his staple goods, his large tonnage, aggregating at least 50 per cent. of his total receipts, he continued to obtain via Cape Horn.

The rail carriers could not overcome this practice by open tariffs. Whenever the railroads reduced their rates the steamship lines and the clipper ships reduced theirs, so that there still remained the inducement of the importer to divide his tonnage, obtaining the largest share by sailing vessel. He believed that his interests compelled him to continue this practice, because the railroad rates were the same to all shippers, while there was considerable discrimination in the rates by sea. To overcome these conditions the Pacific railroads finally hit upon what is known as the Contract Plan. They solicited the total business of these large importing merchants at San Francisco, and, in consideration of a contract whereunder they agreed to obtain their goods exclusively by rail, guaranteed rates which were supposed to approximate the merchant's average transportation charge by using all three routes. This arrangement was the beginning of a large movement by rail. It was found to be objectionable in many respects and did not continue very long, but it did furnish the foundation for all of the tariffs which have since been constructed to apply to the transportation by rail of freight from New York to San Francisco and other Pacific Coast terminals.

Competition of the clipper ships around the Horn ceased some years ago, but competition of the steamship lines by way of Panama, and by Tehuantepec, is still active and potent. Vessels of this service not only carry merchandise from the Atlantic Coast, but solicit shipments from the interior, making through rates low enough to favor the use of these vessel-routes as against the all-rail lines, after allowing for the cost of carriage from the interior point to the ship's side at the Atlantic port.

The railroads at one time discussed making the all-rail rates from the stations interior to the Atlantic seaboard, and in the Middle States to the Pacific Coast, by adding the local rate from such a station to the Atlantic port to the vessel rate from that port. Under this plan the rates to the Pacific Coast would have gradually risen from the Atlantic seaboard to that point in the interior from which the normal rail-rate to the Pacific Coast would be equal to the rail-rate to the Atlantic, plus the vessel-rate thence to the Pacific Coast. The interior points thus paying higher rates than the Atlantic ports would have been handicapped in competition with those ports for the trade of the Pacific Coast; the rate, for example, from Chicago to San Francisco, would have been higher than the rate from New York. These interior cities and the railroads taking Western traffic therefrom would not tolerate such an adjustment. The vessel-forced rates from the Atlantic Coast were therefore "blanketed back" to those points, whence the rates under the normal rail adjustment were no higher. Under this arrangement, which is now in effect, the rate from New York, speaking generally, applies from every point between that city and Chicago. That is, on trans-continental traffic there is between these limits a rate plateau which descends from Chicago westward. To the foodstuffs from the Missouri Valley rates are applied that permit them to be sold in the markets of the Pacific slope.

As different railroads have reached from the East via different routes to the various harbors on the Pacific Coast, the competition of one railroad with another and of one harbor with another has compelled the making of the same rates to the different terminals that have water communication. Therefore, in so far as the transportation charge on merchandise from the East is concerned, San Diego, Los Angeles, San Francisco, Portland, Seattle and Vancouver are on a parity. In no case is the ratio of the transportation charge to the price of the consumer's unit materially greater than it is at

the Missouri River. That is, for example, although the rate on merchandise of the first class from Boston and New York is more than twice as much to San Francisco as to Kansas City—being \$3 in the one case and \$1.48 in the other—the difference in the case of drygoods amounts to but a fraction of a cent a yard. On the heavier commodities, such as machinery and woodenware, which largely come from the Ohio and Mississippi valleys, the transportation charge bears a somewhat higher ratio, but it very seldom, if ever, will justify more than an insignificant addition to the retail price of any commodity.

These terminal rates, in the days prior to the time when the railroads had attained their present efficiency, were also made applicable to, and still apply to, the cities having direct water communication with the coast, such as San José, Stockton, Sacramento and Marysville. Such cities had become centers of distribution for the surrounding territory, before the Pacific Railroads were constructed, receiving their supplies by water.

The local rates upon which merchandise is distributed throughout the interior of California are also affected by the waterways. The rail rates from the coast to Stockton, to Sacramento, and to Marysville are less than the rail rates made on the basis that applies throughout the State in general, because of the boat lines on the rivers that are navigable to these points; while the rates to stations beyond are made by adding the local rates from these stations to the competitive rates thereto, or sometimes upon a lower scale.

Rates for the north and southbound traffic along the Pacific Coast are made in like manner. The steamboats between Portland and San Francisco, between San Francisco, Santa Barbara, San Pedro and San Diego, keep down the rail rates between those cities, while the rates to intermediate stations are the lowest that can be obtained by adding the local rate from one or from another point. That is, rates between the Pacific Coast ports,

and throughout the valley that lies between the mountains and the Pacific Ocean, are made in the same manner as the rates from the cities of the North Atlantic seaboard to the ports and to the river towns in the Southeast that are upon or adjacent to the Atlantic Coast and the Gulf of Mexico; and in the same way that rates are made over the railroads that lead, in competition with the Mississippi River, from Chicago, St. Louis and Louisville into the South.

Were it not for the products of the soil the railroads connecting California with the East would have little eastbound traffic. Were it not for the general consumption of those who grow, and in one way or another are dependent on, this produce, these railroads would not carry much traffic from the East. It is therefore to the interest of the railroads to co-operate with the farmers in extending the cultivation of the farms, the orchards and the groves, and, consequently, in extending their markets. To do this it is necessary that the railroads leading from California obtain the participation of practically all the railroads of the United States in the through rates that are necessary to market the Californian products. Their traffic managers are in continual communication with the traffic managers of the other railroads to this end. This is, of course, in order that their lines may secure an increasing traffic, but it is also an inestimable benefit to the Californian producers. The result is that their oranges, lemons, peaches, pears, plums, grapes, apples, celery, cabbage, cauliflower, potatoes, raisins, prunes, figs, English walnuts, dried fruits and canned fruits, olives and wines, find markets from Denver to Boston and Montreal, and from St. Paul to New Orleans.

The rate on oranges is \$1.15 per 100 pounds from the Californian packing houses to every place east of Denver, as far as the remotest corner of New England. The rate on lemons has been made 15 cents per 100 pounds lower than on oranges to aid the industry in its rivalry with the lemons of Sicily. During about one half of the season

refrigeration is necessary, which adds from \$50 to \$110 a car to the transportation charge. To be more explicit, the unit of transportation is the box, which weighs 72 pounds and contains on the average twelve dozen oranges. During a period of normal production and prices the average cost delivered in New York was \$2.72 per box, the freight and the refrigeration costing about 95 cents, or 8 cents a dozen. The other expenses of marketing and the picking and packing in California ran from 50 cents to 60 cents a box, leaving about 10 cents a dozen to the grower. This is approximate and therefore but an indication. The prices in the East and the return to the grower fluctuate within a considerable range, and the number of oranges in a box varies.

The vegetables of California move by the carload, with a minimum of 20,000 pounds, at a rate of \$1 per 100 pounds to Chicago, \$1.15 to Buffalo and Pittsburg, and \$1.25 to New York. There is also an icing charge of \$55 a car to the Missouri River, which approximates 23 cents per 100 pounds; and \$67.50 to New York, which approximates 25 cents per 100 pounds.

On deciduous fruits, which come mostly from the central and the northern parts of California, and from Oregon and Washington, the rate to all points between Colorado and Chicago by the carload, with a minimum load of 24,000 pounds, is \$1.25 per 100 pounds. The rate to Cincinnati and Pittsburg is \$1.40 and to New York and Boston \$1.45. There is, in addition, a refrigeration charge. This is \$70 per car from Sacramento; and from Portland, Oregon, where ice is more readily obtained, but \$45 per car to Chicago, and in proportion to other markets.

The wide fluctuation in the prices obtained for fruits of the various kinds and grades at different times and places precludes any definite statement as to the return to the grower. The current statements as to the enormous profits per acre would indicate that the transportation charge is a negligible factor either with the consumer or the producer.

The Regional Rate Structures III

In 1908 grapes that paid the railroads, all told, about \$400 a car, brought from \$1,200 to \$1,900 a car in the Eastern markets; the grower of cherries received an average of perhaps 8 cents a pound. In this year, however, because of the abundant crops elsewhere, peaches brought only \$20 a ton at the orchard, although they had brought \$70 a ton during the previous year.

A box of pears, selling in New York for \$3.20 for the 42 pounds, yielded the grower about \$2.20, out of which he had to pay for the picking and the packing. Apples net \$500, strawberries \$800, vegetables \$300 and upwards an acre.

The extent of California is comparable to a reach from Savannah to within a few miles of Boston, and its soil produces as varied products. On Mt. Whitney is eternal snow, while oranges and lemons are ripening in the Riverside region, strawberries and raspberries in the lowlands, and vegetables and deciduous fruits farther north.

The production of deciduous fruits in Oregon and Washington is not as large as that of California, with the exception, perhaps, of apples, which are firmer in texture and juicier. Owners of apple orchards in these States have refused \$1,200 and even \$1,600 an acre for their fruit bearing lands.

The halibut and salmon fisheries are also a source of great revenue to these States. The rate on canned salmon and halibut is the same as the rate on canned fruits and vegetables, 85 cents per 100 pounds from the Pacific Coast to any place in the United States east of the Missouri River.

This rate, although nominally lower, is really more remunerative to the railroads than the rate on the ripe fruits. A car can be filled with canned goods from top to bottom and from one end to the other, the load aggregating more than 40,000 pounds. A car cannot be thus filled with citrus fruits, the heaviest load not exceeding 26,700 pounds with safety, and, in addition, during the period of refrigeration, it carries 8,000 pounds of ice, for the transportation of which the railroad makes no

charge. Moreover, the refrigerator car needed for the fruit weighs 8,000 pounds or so more than the box car which is adequate for canned goods; and canned goods can be moved on regular trains under a normal schedule, while citrus fruits are forwarded on special trains at accelerated speed.

That commodity which at this time is of the greatest importance to the far Northwest is the output of the forests, about two-thirds of the total value of the products of the State of Washington being composed of lumber in one or another of its forms. When the newly built railroads into this region were seeking return loads for the cars bringing merchandise from the East, they made a rate of 40 cents per 100 pounds on lumber from the Northwestern forests to St. Paul. Under the stimulus of this low rate markets for the lumber were found in the Missouri Valley, even in the farther East for the choicer woods, and the industry developed until in 1907 it employed, in the State of Washington, 101,000 men, who received \$70,000,000 in wages. In the dozen or more of years following the inauguration of the low rates, the development of the fisheries and the orchards and of other traffic in general made it not so imperative for the railroads to secure return loads of lumber. The markets had been established and lumber had so greatly advanced in price that it seemed to them justifiable that the rate should be advanced. It was endeavored to increase the rate to St. Paul from 40 to 50 cents, and to Omaha from 50 to 62½ cents. This was vigorously resisted by the lumbermen, who brought action before the Interstate Commerce Commission, which practically restored the old rates. The matter was then taken to the courts by the railroads, who claim that they are entitled to adequate compensation for transporting the lumber, especially in view of the fact that the advance in lumber prices is rapidly enhancing the fortunes of the lumbermen. These gentlemen held that while there is a secure market for their finer grades, the knotty interiors of the logs, which

could be used for various staple purposes, had to be thrown away, as they cannot be marketed in competition with similar lumber from the South, which has an advantage of 40 cents or more a thousand feet in the cost of production, and an advantage of about \$9 a thousand in the freight rate. The lumbermen state that because of this inability to market the inferior grades, over 53,000 carloads, to the value of over \$15,000,000, were destroyed in one year. The railroads reiterate that they are entitled to fair remuneration for the lumber haul, and intimate that if the lumbermen were not so zealous in pushing their finer grades at this time they would, in but a few years, as the country places more and more reliance upon the Northwestern forests, be enabled to market not only the superior but the inferior grades at prices still further enhanced. This contention not only affects the carriage of lumber from the far Northwest to the Missouri and Mississippi Valleys, but its transportation from the Willamette Valley of Oregon to the markets of California. Here the railroads increased a long standing rate of \$3.10 a ton to \$5, which was reduced by the Interstate Commerce Commission to \$3.40, whereupon the railroads took the matter into the courts.

INTER-REGIONAL TRAFFIC

The boundaries of the regions, for which the rate structures described in the foregoing pages were developed, are indicated by no artificial lines. The cities that are the leading industrial and commercial centers of the United States to-day, with but two or three exceptions, were the chief commercial centers before the days of the railroads, principally because of their water communication. It was for the benefit of the railroads to seek to share in the movement of the commerce of these cities, and for the benefit of these cities that they should have railroad communication. Therefore, as we have learned, New York, Philadelphia and Baltimore

on the east, and Buffalo and Pittsburg on the west, became the termini of the Trunk Lines. Merchandise changed ownership at these termini. When the Trunk Lines gained access to Chicago and St. Louis the merchandise brought from the East changed ownership therein before distribution in the territory beyond, and commodities from the West almost invariably changed ownership here before further consignment to the East. The line of division between the Trunk Line—Central Traffic Territory—and the trans-Mississippi-trans-Missouri region was therefore due to the location of Chicago and St. Louis, which in turn was due to their advantageous sites, which naturally made them the first and the most important gateways between the two regions. The trans-Missouri region, representing the broad end of the fan, was naturally limited by the Rocky Mountains. The Pacific slope, by reason of its natural boundaries and peculiar characteristics, became a well-defined region.

For reasons similar to those which made Chicago and St. Louis gateways between the East and the West, Cincinnati, Louisville, Memphis and New Orleans became gateways between the Southeast and the Central Traffic Territory on the north and the trans-Mississippi territory on the west. The railroads of the respective regions terminated at these gateways, and nearly all of the merchandise consigned from or to the Southeast changed ownership therein.

It was therefore entirely logical that a freight rate structure should develop within the limits of each region, and be moulded by the characteristics of its commerce. As with the growth of commerce shipments were forwarded from a point in one to a point in another region, the rate for the through shipment was made by adding the rate from the place of consignment to the regional gateway, to the rate from that gateway to the place of destination. The next step was the making of inter-regional rates from a competitive point in one region, the same via different gateways to a competitive point in another region.

The rates for the distributive flow of the merchandise of the higher classes from the East and from the Central Traffic Territory into the Southeast, and into the trans-Mississippi and trans-Missouri regions, are still largely made by combinations on the regional gateways, although the ownership of the merchandise does not in these days change in nearly so large a proportion at those gateways. Kansas City and Denver, for example, as well as Atlanta and Birmingham, buy directly from either Chicago or New York.

In the reverse channels of traffic, those in which the grains and grain products, meats and meat products of the West, and the fruits and vegetables of the South, flow from one into another region, the rates are also still frequently made by combinations on the regional gateways. To an increasing degree, however, inter-regional shipments of such commodities do not change ownership between the place of concentration in one region and the place of destination in another. The tendency in the adjustment of such rates is, therefore, to take less account of the regional boundaries and to be governed in greater degree by the conditions existing at various markets throughout the country, or throughout the world, the competitive relations between those markets, and the transportation agencies leading thereto. This tendency has been enhanced by the increasing number of railroad companies that have established through lines, either under direct ownership or immediate control, between one region and another, and the multiplication in the number of gateways as these through lines have crossed the regional boundaries at different points.

Inter-regional rates, in common with long distance rates in general, are, as a rule, lower than the sums of the separate rates applying between intermediate points along the through line formed by the various railroads. The division of such a rate between the different lines, therefore, gives to each line less than it obtains on a shipment originating at the point at which it receives the long distance shipment and consigned to the point

at which the long distance shipment leaves its line. That is, the "proportion" accruing to a railroad on a long distance through rate is, as a rule, less than its regular rate between the receiving and the delivering point. To facilitate the making of such through rates many railroad companies publish from their junctional points "proportional" rates, which are simply the proportions they receive on through traffic. For example, the lines leading east from St. Paul and Minneapolis publish a proportional rate from those cities on bullion, although no bullion originates at either of them. This proportional rate is used by the lines west of St. Paul and Minneapolis in making through rates on bullion to the East in competition with the Eastern routes via Omaha or Kansas City.

The most conspicuous example of an inter-regional rate adjustment is that arising out of the needs of the transcontinental traffic in either direction between California and the East; this has been sufficiently described. Other inter-regional adjustments are those affecting the staple foodstuffs and the staple raw materials of manufacture. These will now be briefly considered.

CHAPTER VIII

COMMODITY RATE STRUCTURES

A **COMMODITY** rate is applicable to a particular commodity, thereby being distinguished from a class rate which is applicable to any of the many articles that are grouped in the same class. Commodity rates are usually specified for each of the great staple materials, which move in large quantities under conditions peculiar to themselves. There are many of these commodities. In this chapter will be indicated the conditions that have affected the rates applying on a few of the more important.

(I) GRAIN AND GRAIN PRODUCTS

Wheat is the accepted type of the grains, and flour of the grain products. The rate structure which has developed to meet their needs is similar to that which characterizes corn and cornmeal, oats and oatmeal, and the other grains and their products.

As the population east of the Alleghany Mountains began to draw upon the Ohio Valley for part of its grain supply, Detroit, Toledo, and Cleveland became places of concentration for that which was sent east by way of Lake Erie and the Erie Canal. The competition between this water route and the various rail routes was steadied by the adoption of the Trunk Line Percentage System. With the increase in the production of grain to the west of Chicago, radical competition broke out between the boats running from the Lake Michigan ports to Buffalo, and the all-rail lines. The rates of the lake vessels were subject to wild fluctuation, the necessity for a boat to obtain a cargo determining its charge for carrying such grain as was ready for shipment. To meet this competition the rates of the railroads also underwent rapid and radical changes during the season of naviga-

tion, causing losses which they tried to recoup by advances during the winter when the waterways were closed.

Although this rivalry between the water route and the rail routes for the carriage of grain to the East has continued to this time, there has been such a progressive decrease in the margin between the rates of the boats and those of the railroads that there is no longer such violent oscillation. The establishment of fast trains to move flour in train loads from the great mills of the Northwest to the seaboard is relieving the mills of the necessity for keeping vast quantities of flour in storage at Chicago for future shipment to the great eastern markets. These trains are run on quick time to a central point, such as Buffalo, whence the cars radiate to their destinations. The millers prefer to pay 2 cents per 100 pounds higher than the lake charge for this special service, and they are also led to give their traffic to these fast trains in summer in order that the service may be continuous, thus assuring a supply of cars in the winter.

When the grain from the western fields so exceeded the requirements of the United States that it was feasible to dispose of the surplus in Europe, another factor entered into the old time rivalry between the ports of Boston, New York, Philadelphia and Baltimore, and the respective lines serving them. Each city strove to handle and each railroad to carry an increasing proportion of the export grain. This was a foremost element in the rate wars that began in the early seventies. After various attempts at settlement, adjustment under the auspices of the Trunk Line Association decreed in 1877 that the rate on grain from the West should be the same to Boston and New York, 2 cents less than New York to Philadelphia, and 3 cents less than New York to Baltimore. The shorter distance from Boston to Liverpool was held to offset the longer rail haul, and therefore to justify Boston being placed on a parity with New York; the lower rates were accorded to Philadelphia and Baltimore because of their shorter distance by rail from

the West and their irregular and less efficient vessel service. The general intention was that the through rate via rail and steamship should be the same from the interior to Liverpool through either of the competing ports. The basis on which the differentials were awarded having been questioned the matter was referred in 1882 to a Board constituted of Allen G. Thurman, Elihu B. Washburn and Thomas M. Cooley, who decided that the competitive relations between the cities were justly to be regarded as the principal factors in determining the differentials, and that the differentials then in effect were fair under the conditions then existing. These differentials, fixed in 1877, never satisfactory to Boston and not entirely so to the other cities, were reduced one-half in 1899. At a later date the matter was brought before the Interstate Commerce Commission and that body, in the capacity of an arbitrator, finally decreed in 1905 that this adjustment should stand; that is, that the rate to Philadelphia should be one cent and to Baltimore one and one-half cents less than to New York. This applies to grain moving entirely by rail. On that which has come by lake to Buffalo the export rate to Baltimore and Philadelphia is six-tenths of a cent less than to New York and Boston. This decision is still unsatisfactory to Boston. That city holds that while the basis of the original award was to secure an equal through rate from the western primary markets through each of the various ports to Liverpool, the lowering in recent years of the ocean rates from Philadelphia and Baltimore practically establishes a lesser rate to Liverpool through these ports, and that, therefore, the exports of grain and grain products through Boston are decreasing, notwithstanding her better steamship facilities, while the exports through Baltimore are increasing.

The all-rail rate upon wheat from Chicago to New York per 100 pounds, that had fluctuated between 50 cents and \$1.60 from 1864 to 1867, was 25 cents in 1882, and has ranged around 16 cents in recent years. At this writing it is 13 cents.

The extension of the grain culture from the upper Mississippi Valley throughout the West naturally gave rise to rate problems in that region that had to be fought to a solution. The railroads leading into Milwaukee and into Chicago brought grain into those cities at local rates. As the first railroads from upper Wisconsin led through Milwaukee into Chicago, the rate was naturally lower to Milwaukee than to Chicago, and Milwaukee became the first great primary grain market of the West. The development of Chicago as a railroad center attracted a greater number of boats, because of the opportunity for the exchange of traffic with the rail lines, and pressure was brought to bear upon the railroads to make the grain rate the same to Chicago as to Milwaukee. This Milwaukee resisted, but as railroads were built from the grain fields to Chicago without passing through Milwaukee, it became imperative that the rate via these lines to Chicago be no higher than that to Milwaukee; for, otherwise, the lines reaching Milwaukee at a lesser rate would have a vital advantage.

As the growing of grain pursued its way through Wisconsin into Minnesota, Duluth became the nearest lake port to a portion of the grain region. The endeavor of the railroads leading toward that city to increase their traffic created competition between them and the lines serving the ports on Lake Michigan. Wheat was handled through Duluth at $2\frac{1}{2}$ cents less per 100 pounds than through Chicago: this made the Zenith City the great grain port of the Lakes. In those days there was not enough business from the West to fill the cars that had taken merchandise from the East. Competition focused upon the grain and especially upon wheat, the great staple. There were attempts to apportion the traffic between the different lines, but each of these pools had only a short existence. A difference of opinion between the lines leading from Minneapolis to Chicago as to the division of the wheat traffic led to the great rate war which began November 19 and continued until December 14, 1882, and incidentally resulted

in the company owning one of the Chicago lines obtaining a majority of the stock of one of the Duluth lines.

At about this time the milling interests in Minneapolis, at the Falls of the Mississippi, that were on their way to pre-eminence, began to intercept a great part of the grain shipments that formerly would have gone East by way of Duluth. Indeed, the capacity of these mills soon outstripped the supply of wheat from the tributary farming land then under cultivation, and this led to more extended cultivation. Under the ensuing rate adjustments, while the rate on wheat is still lower to Duluth than to the Lake Michigan ports, the rate on grain products from Duluth is one-half cent per one hundred pounds higher than from the Lake Michigan ports to the seaboard territory. Duluth, therefore, has not maintained pre-eminence as a port of grain shipment, its greatness now depending upon the commerce in the ore, for which it is a concentration point for shipment down the Lakes, and in the coal which comes up the Lakes for distribution throughout the Northwest. (See Milling in Transit.)

When the first elevator was built at Chicago—not long before the Civil War—it was thought that sufficient grain to fill it would never come to the city. A typical rate on wheat at that time was 28 cents per 100 pounds from Champaign, Illinois; it is now 5 or 6 cents. At the time of the great grain rate wars between the lines in the Northwest there were at least one or more elevators at the terminus of every line entering Chicago from the West. They received grain not only from Wisconsin, Minnesota, and the Northwest, but from Iowa, Kansas and Nebraska. As grain was grown in Missouri and Arkansas, elevators were erected in St. Louis, and, as the production west of the Missouri River became extensive, at Omaha and Kansas City, which became primary markets that have increased in importance. (See Elevation.) The competition that arose between the various markets and the railroads serving them led gradually through the years to a general equalization

of rates to the East. That is, broadly speaking, the rates are so adjusted on grain from an initial shipping point of the West that the local rate to Kansas City, plus the through rate from Kansas City to the East; the local rate to Omaha, plus the through rate from Omaha to the East; the local rate to Chicago, plus the through rate from Chicago to the East; and the local rate to St. Louis, plus the through rate from St. Louis to the East, shall aggregate the same total rate. This equalization of the grain rates, so that the total shall be the same or approximately the same from any place of production via any primary market to the same Eastern market, is general through the grain regions. The result is that the grain freight rates form a delicate structure which may easily be disturbed by this cause or that.

A disturbing factor of the first magnitude arose through the revival in recent years by the railroads leading to ports on the Gulf, of the carrying of grain for export to those ports. Many years ago attempts were made to take grain to New Orleans by boat down the Mississippi River, but in the warm climate it became saturated with moisture in the vessels' holds. The endeavor of the railroads extending to the Gulf to build up their traffic in grain began anew with the large crops of 1900, and made considerable progress during the two or three subsequent years. At first these railroads made rates far below those in effect to the Atlantic seaports. The railroads serving the Atlantic seaports retaliated, and in natural course there were rate wars, disastrous to the revenues of the railroads and unsettling to the grain business. After a test of strength by the fighting railroads the subject of an equitable differential between the ports of the Atlantic and those of the Gulf was taken up for mutual serious consideration and discussion. The Gulf railroads claimed that because of the shorter distance to their ports from the grain fields, their low grade lines upon which the expense of handling was not so great; because of the moisture that accumu-

lated in the grain, impairing its quality so that it brought lower prices in the European markets; small elevator facilities; the longer water route to Europe and higher vessel rates; irregular and less efficient vessel service, and higher marine insurance, they should have a differential of from 6 to 8 cents per 100 pounds under the Atlantic rates. The Atlantic railroads replied that by means of recent inventions the Gulf grain can be thoroughly dried at little expense; they produced certificates from European dealers that grain from the Gulf ports averages as high in quality as that from the Atlantic ports; claimed that the difference in time between a trans-Atlantic voyage from the Gulf ports and from the Atlantic ports was not of great importance; that while the regular steamship sailings are not so frequent the Gulf ports are well supplied with tramp vessels; and on account of these and other considerations urged that the differential should not exceed 3 cents under Baltimore, which would be equivalent to 4 cents under Philadelphia and $4\frac{1}{2}$ cents under New York. There was finally a compromise. At this writing the rate on wheat per 100 pounds from Kansas City to Baltimore is $26\frac{1}{2}$ cents; to the Gulf $22\frac{1}{2}$ cents. The proportional rates for export are, from Kansas City to Baltimore $23\frac{1}{2}$ cents, to Galveston $18\frac{1}{2}$ cents.

Before the development of the grain traffic between Kansas City and the Gulf the rates on grain for shipment through Kansas City were made by the combination of the local rate from the grain fields of Kansas and Nebraska to Kansas City with the through rate from Kansas City to the East or Southeast or to the Gulf. The increase in the grain traffic by the direct lines from Kansas City to the Gulf led to lines not so direct entering into competition for this traffic. The rate on grain for export from Wichita and the surrounding territory, that had been made by adding the local rate from Wichita to Kansas City to the rate from Kansas City to the Gulf, thus came to apply from Kansas City to the Gulf by way of Wichita. That is, a lower charge was being made for

the longer haul from Kansas City through Wichita than for the shorter haul from Wichita to the Gulf. This naturally awakened the antagonism of the growers and dealers in grain of Wichita and thereabouts, who sought larger reductions than the railroads were willing to make. The matter was finally taken to the Interstate Commerce Commission, which so reduced the rates from Wichita to the Gulf that the rates from a considerable area of the grain region to its north and west make on Wichita instead of Kansas City. Grain from this region is naturally seeking the gulf ports without going through Kansas City, and the importance of that city as a primary grain market is consequently impaired.

The development of the transportation lines of Canada has brought another factor into the export grain traffic. In the summer of 1908 the Canadian steamers and railroads took grain from Port Arthur and placed it alongside steamer at Montreal or St. Johns for $3\frac{1}{2}$ cents per bushel. The rate of the American railroads on wheat from the vessel at Buffalo was $5\frac{1}{2}$ cents per bushel to New York and Boston, and the grain merchants of those cities complained that the American lines were depriving them of traffic because they would not lower their rates to meet those via the Canadian route. These lines stated that if they were to reduce the rate by way of Buffalo 1 or 2 cents they would still get none of the Canadian wheat, but would ruinously sacrifice their revenue on such wheat as came to them. They suggested to the New York and Boston shippers that inasmuch as the Canadian government supports the Welland and Lachine Canals it might not be improper for them to secure lower rates by bringing their wheat East by the Erie Canal.

That the mills near the farms and those near the places of consumption may be upon an approximate parity in so far as the transportation charge is concerned, it has been the general policy of the American railroads to make the rates upon wheat the same or very nearly the same as upon flour. This is not always easy of accom-

plishment even in the domestic trade. It is still more difficult to maintain such a close relation between the rates for export traffic as will protect the American miller. At the time of the introduction of the roller ground patent flour, about 1880, the profits of the mills were from \$1 to \$3 a barrel. These have now fallen to 5 or 6 cents a barrel, the millers regarding a margin of from 2 to 3 cents per 100 pounds of flour as a good profit. If the rate on wheat for export is lower than the rate on flour for export by greater than this amount, there is consequently a tendency to export wheat, which is ground into flour in the countries where it is consumed. Wheat rates, however, have undergone wider fluctuations than those on flour, to the frequent grievance of the American millers. The railroads have claimed that the rates on wheat have been subject to more intense competition than those on flour; that wheat can be carried in bulk in heavier loads per car, at a lower cost for loading and unloading, and that a sudden demand will bring forth far more wheat for shipment than flour; the former flowing out of elevators in bulk, while the latter can only be produced from day to day in such quantities as the capacity of the mills will permit. The Interstate Commerce Commission has decreed that the rate to the seaports on flour for export must not exceed the rate on wheat by more than 2 cents per 100 pounds.

The general effect of the grain rate structure of the railroads of the United States is summed up in volume VI of the Report of the Industrial Commission, published by the Government Printing Office in 1901. It states that while it is a fallacy to assume that grain rates all over the country have fallen anything like the rate on grain from Chicago to New York, there has been "great gain in the past fifteen years to the consumer by the elimination of numerous charges at the central markets by concentrating the trade, and to the producer by the competition of these central markets themselves, whereby the price tends to be kept up to a higher level than otherwise." It further says that "the competition of car-

which draw their supplies of livestock principally from Ohio, Indiana, Illinois, Kentucky and Tennessee.

When the slaughter of cattle and hogs on an extensive scale began in the West everybody assumed that the rate on dressed beef and dressed pork should be higher than that on cattle and hogs, manufactured products always commanding a better price in the markets than the raw material out of which they are made, and therefore paying a higher rate of freight. Moreover, the cars in which livestock was shipped were not of expensive construction and frequently secured return loading from the East. Refrigerator cars, on the contrary, are costly. They have to be provided with facilities for carrying and must carry ice at the same time as the beef, and they do not always find loads for the return to the West. Competition engendered by the packing houses, after a long and bitter contest between the interests involved, forced the western railroad companies to make the rate on dressed beef and dressed pork the same as on cattle and hogs. Incidentally it was necessary to decide such questions as to whether slaughtered hogs that were not salted until placed in the cars should be considered as salt meat or a packing house product, the latter taking a lower rate.

This status in the West continued for several years. It was overthrown through the action of a railroad company whose lines, extending between Kansas City, Omaha and Chicago, had been unable to obtain an appreciable share of the traffic in packing house products. The president of this company invited the heads of the packing house companies to a conference in which he agreed to cut the rate on their output from the Missouri River centers to Chicago from $23\frac{1}{2}$ to $18\frac{1}{2}$ cents per 100 pounds, if the packers would guarantee to his company a certain percentage of the traffic. The packers accepted the offer and entered into the contract, with the result that the other lines were obliged to meet the cut rate, and the packers have given them the bulk of the traffic, preferring to make up to the road that brought about the reduction, by a cash

forfeit, the amount of revenue due under their guarantee. A demand of the Livestock Association that an equivalent reduction be made in the rate on live cattle and live hogs was contested by the railroads and made the subject of litigation. The lower court decided that as the competition did not apply to cattle and hogs the railroads were not obliged to lessen the rates to the level of those on dressed meat. The case was appealed to the Supreme Court of the United States which sustained the lower court. The natural result has been to give the packing houses a tremendous advantage over the livestock shippers.

As the shipments of cattle from the West to the packing centers have increased, as the railroads have had to provide better and larger loading pens, improved watering facilities, and to move livestock from the ranges or the fattening grounds in quicker time,—that is, as their advanced methods have brought about the movement of livestock not only more speedily, but with far less deterioration to the animal than would be possible under the old time transportation on the hoof,—they have from time to time advanced the rates above the level upon which they were first fixed to meet that competition. Although they claim that the original rates were abnormally low, and that even under the highest level which they have sought to establish, the carriage of livestock yields less revenue per ton per mile than that of almost any other commodity, certain of the livestock associations have contested the advances before the Interstate Commerce Commission and in the courts. The railroads also call attention to the fact that improved feeding conditions on the ranges make it less necessary than during previous years to transport cattle to fattening grounds, and that as the prices for both cattle and hogs have radically increased the livestock dealers in all fairness should pay higher rates for the superior transportation service.

The Report of the Industrial Commission presented to Congress January 15, 1901, shows that horses, marketed in St. Louis at from \$75 to \$100 each, had paid freight

from the breeding farms of from \$3 to \$6 each. The deduction of this and other expenses of distribution left the producer from \$67 to \$93. Cattle weighing from 1,200 to 1,500 pounds, for which the consumer paid on an average \$5.35 per 100 pounds, paid freight that ranged from 19 to 36 cents. The deduction of this and other expenses of distribution, yielded the producer from \$4.88 to \$5.15. As the advance in the price of livestock has greatly exceeded the advance in the rates of freight, the ratio of the transportation charge at this writing is still lower.

The struggles between the western railroads as to the relative rates on live animals and on meat and meat products did not extend in the same degree to the eastern lines, which have preserved a higher rate on the manufactured product than on the raw material, the rate for many years from Chicago to New York on dressed meat having been 45 cents, the rate on hogs 30 cents and on cattle 28 cents per 100 pounds. The difference between the dressed beef and the livestock rates is thus preserved substantially in accordance with the report of Elihu B. Washburn, to whom the matter was referred for arbitration. After a thorough investigation and analysis he rendered an opinion that in fairness the dressed beef rate should be 170 per cent. of the livestock rate.

(3) COTTON

As grain was a prime cause of conflict between the seaports of the North Atlantic and the railroads serving them, so also was cotton the bone of contention between the seaports of the South Atlantic and the Gulf and the railroads respectively serving them. As with the grain traffic, there was the giving of secret rates, the open cutting of rates, and rate wars that continued with but short intervals until an adjustment of rates that fairly satisfied the export dealers of the rival ports and the competing railroads was brought about in the early seventies through the Southern Railway and Steamship

Association. The damage to their harbors during the Civil War took away much of the cotton trade from Charleston and Mobile, the cities of Wilmington, Savannah and New Orleans each profiting thereby. The rates are now delicately and by almost unanimous consent so equitably adjusted that each port draws cotton from the territory tributary to it; and in the competitive territory farther in the interior each port can compete on a fair basis with its rival. The development of the cotton milling industry in the Carolinas, together with the censorship of the State Commissions, has resulted in an adjustment of rates to the milling points that is eliminating the old time criticism of excessive local rates. When the producer east of the Mississippi River receives 10 cents a pound for his cotton it is computed that the freight charge averages 2.5 per cent. of his receipts.

In Texas the State Railroad Commission has graded the rates on cotton for 160 miles from Houston and established a maximum rate of 49 cents for any greater distance. The rate to Galveston is 6 cents per hundred pounds more, which has the effect of making a rate of 55 cents per hundred pounds for all distances 210 miles or more from Galveston. About 25 per cent. of the cotton which moves through Galveston is grown within 210 miles of Galveston, so that this basis means that 75 per cent. of the cotton produced in the State is carried to the Gulf at the same rate—the rate to New Orleans, for export, being $56\frac{1}{2}$ cents, which is the Galveston rate plus $1\frac{1}{2}$ cents, the amount of the wharf charge at Galveston. The plantation owner several hundred miles in the interior therefore receives as much for his cotton as the grower within 210 miles of the Gulf. This policy tends to give the grower the benefit of the competition engendered by the primary markets, Houston, Galveston and New Orleans. He can ship his cotton to Houston on the basis of 49 cents, and when it is sampled and prepared for market the purchaser at Houston pays the rate of 6 cents from Houston to Galveston. If the pro-

ducer would sell to a Galveston merchant he would pay 55 cents for the initial movement; the present basis therefore provides that a bale of cotton shipped to Houston, thence reshipped to Galveston, pays exactly the same freight rate as a bale of cotton shipped direct to Galveston. The rule of the Texas Railroad Commission requires that railroads shall compress all cotton, if desired by owner, at the nearest compress in line of movement, and pay for this compression the amount of 10 cents per one hundred pounds. The railroad company, therefore, receives 39 cents per hundred as net revenue for hauling a bale of cotton from the initial point to the compress, thence to Houston; and 45 cents from the initial point to a compress, thence to Galveston. This regulation of the Commission has had the effect of stimulating the construction of compresses in the interior so that the compresses at Houston and Galveston are used only to a small extent and by small shippers who forward their cotton to factors at Houston and Galveston to be compressed there and placed on the market when market conditions are favorable. Of the entire average crop of Texas of over 3,000,000 bales, only about 10 per cent. is thus handled.

In other parts of the South the railroads likewise pay the compress fee because the compress reduces the baled cotton by about 75 per cent. in bulk, thereby enabling a far greater tonnage of compressed than uncompressed cotton to be loaded in a car. The fee, however, ranges as low as seven cents, in but few places being as high as the ten cents stipulated by the Texas Commission.

The rate from Oklahoma to the Atlantic seaports on cotton going to Europe is naturally higher than from the other cotton producing sections. By way of compensation the rate to the Pacific Coast for export to the mills of China and Japan is lower than from any other cotton raising district of the United States, except Texas. Cotton from Oklahoma, therefore, seeks the Pacific and the Oriental markets.

Probably no other agricultural product of the United

States is so slovenly handled as cotton. The farmers often leave it exposed to be damaged by rain and infiltrated with mud; it is loosely baled and inadequately marked. That which is sold to Japan, however, must meet the requirements of the Japanese, who insist that it be carefully packed, that it be clean, and bound in white cloth, which must be marked in indelible ink.

(4) LUMBER

The shifting of the source of the lumber supply has prevented the lumber rate structure from ever attaining a condition even approaching stable equilibrium. Sixty years ago the lumber used by nearly every town and city in the country was obtained from adjacent forests, and shaped in near-by mills. Timber is still cut in New England, New York and Pennsylvania, but in quantities that are no longer adequate to supply local needs. As the vast forests of these States were destroyed by the woodman's axe, and by fire and freshet, and the ravages of insects and fungi, Buffalo became a great headquarters of dealers who brought lumber down from the Lakes and across the border from Canada. Then the main source of supply shifted to the West and to the South, and finally to the Southwest and the far Northwest. The lumber dealers whose business was once almost entirely done through Buffalo, in common with lumber dealers who have headquarters in other cities, have established offices at Memphis, through which they direct shipments from the Southwestern forests. Lumber, and especially shingles, also come in great quantities from Oregon and Washington to the far East. For instance, the coal companies of Pittsburg that send coal down the Ohio and Mississippi Rivers in the light wooden shells known as coal boats, once obtained the hemlock of which these boats are made from the banks of the Allegheny River. Now it comes in large quantities from the forests along the Columbia, Oregon, and Willamette Rivers and their tributaries.

The shifting status of the lumber rates is shown by the changes that followed the depletion of the Northwestern forests. Logs from the timber land along the lake shore were once taken by water to Buffalo and Chicago, where they were milled for further use. Even the lumber used in Omaha and eastern Nebraska came from the Lake forests by water to Chicago and by rail from the Chicago mills to Omaha. As the forests were cut away from the lake shore sawmills were built in the interior, it being more economical, in the absence of immediate water transportation, to saw the timber at the forest edge. Competition arose between these interior mills and those at Chicago for the trade of Omaha. The matter was referred to arbitrators who established the rate adjustment, based on fixed differences as from the respective milling districts, that is in effect to-day. At this time, however, the requirements of the Omaha section are met principally with pine from the South and from the States of Idaho, Oregon, Washington and California, the Wisconsin mills finding a more profitable market in Ohio and Indiana. These white pine forests of Wisconsin and Minnesota have been so depleted that large distribution of lumber no longer takes place through the ports on Lake Michigan, Lake Superior and Lake Erie. When lumber was forwarded by water the various sizes were loaded in the boats as they came from the mill, and were assorted and prepared for specific markets as they were rehandled from the boats to the railroad cars at the lower ports. At present the lumbermen find it more profitable to fill specific orders directly at the mill by loading the sizes and shapes desired on cars that go through to destination.

In the proceedings of the traffic associations whose formation was brought about by the excessive railroad competition of the Northwest the lumber rates were a source of unending complications. Adjustments were required between the rates on hardwood logs and hardwood lumber, on softwood logs and softwood lumber, and between the rates on lumber and those on its various

products, such as telegraph poles, beams, shingles and girders.

The railroads of the interior Northwestern States endeavored to protect the trade of their lumbermen as long as the white pine forests provided abundant traffic. They thus facilitated the conversion of the timber districts into farming lands, and the lumber afforded return loads for the cars that brought the supplies to the lumber camps. It was their fixed policy, therefore, to make lower rates on this white pine than on the yellow pine from the South which was then seeking a market, the discrimination being furthered by the fact that there were no return loads to the South for the cars that brought up the yellow pine. As the Northern forests have been denuded, the rates on the Southern pine have been reduced. The following example is but one of the very many that might be cited to illustrate the complications arising from such a change in the source of supply.

During the availability of the Wisconsin forests extensive and expensive plants were established in Oshkosh for the manufacture of sash, doors and blinds, which supplied large markets in Chicago, Cincinnati, Toledo, Indianapolis, and other cities of the interior. As the lumber supply moved toward the South similar plants were erected at Muscatine, Iowa. Both cities are now forced to bring lumber from the Southwest, the haul to Oshkosh being considerably longer than to Muscatine. The Oshkosh plants are under a further handicap in reaching the markets at Indianapolis, Columbus and Cincinnati by the fact that the rates from Muscatine, a Mississippi River point to the south of Dubuque, are largely controlled by the rates from St. Louis, and the direct route is to the south of Chicago, whereas Oshkosh is almost due north of that city. A similar illustration is furnished by the vehicle factories that were located at Pontiac, Wayne, Jackson, South Bend, and Franklin, because of contiguity to the Michigan lumber supply, which has also been exhausted. They must now

obtain lumber from the South and Southwest, and they likewise complain because of the rates on vehicles to the West and Southwest. That is, these industries, which in previous decades paid remunerative rates to the railroads, now seek unremunerative rates to enable them to continue in competition with rival industries that, situated nearer the present sources of lumber supply, not only secure their raw material more cheaply, but have lower rates on their products to the region to which they are a long step nearer than the earlier located factories to their north. South Bend, for example, clamors for the same rates to the West as from Chicago, although she is 86 miles to the east of that city. This and the foregoing example are reciprocal in that to sustain the sash, door and blind factories of Oshkosh the roads to the west of Chicago are obliged to ask concessions of the railroads leading from that city through the Central Traffic Territory; while to protect the vehicle industry of northern Indiana and southern Michigan the railroads leading therefrom to Chicago are obliged to seek concessions from the lines leading to the West from that city.

While the railroads of the Northwest were making low rates on white pine to give the lumbermen of that section an advantage in the markets, the railroads that had been constructed into the South, and especially into Arkansas, Louisiana and the Southwest, were attempting to increase their traffic and develop the territory which they served by encouraging the cutting of and helping to market the yellow pine and the other woods of the South. They made low rates and still lower rates, and finally began to obtain traffic from the lumber which at last was gaining a foothold in the northern and western markets. As the northern forests were exhausted the lumber from the South and Southwest came more and more into demand at higher and higher prices; stumpage that had sold as low as from 10 to 20 cents an acre had risen to \$5.00 and upwards, and the land itself, for which there was not a purchaser at \$5.00, easily brought from \$25.00 to \$50.00 an acre. The railroads endeavored to

advance in their rates, claiming a right to share in the increased prosperity of the region; the lumbermen contested these advances before the Interstate Commerce Commission and through the courts, which upheld the Commission in nullifying an advance of two cents per 100 pounds.

The prosperity of the lumber industry to the westward of the lower Mississippi has extended to the remote Southwest, timber that a score of years ago could not find a market now being the basis of profitable operation. When its timber in Michigan was nearing exhaustion, a lumber company of that State, about the year 1891, invested in white pine timber in New Mexico, erected a sawmill and built a logging railroad. It struggled for several years to find a market, but almost entirely without success. The lumber was full of knots and pitch, and could not be sold in competition with that of the Pacific Coast, or even that of Colorado. The railroad on which the enterprise was located made very low rates to aid in the disposition of lumber in Colorado and Kansas, but the lumber company ultimately abandoned the project, dismantling the sawmill and taking up the logging railroad. The property laid idle until about 1904, when another company purchased the timber rights, and built a mill at a point where there was better water supply. This company cut the trunks in short lengths for the market, into material for sash, doors, boxes, barrel heads, and into lath. It is now shipping the material to the sash and door factories at Muscatine, Oshkosh, and Chicago, and even sends doors to Scotland, making a fair return on a very large capital. These results have followed the great advance in the prices of lumber, coupled with the intelligence of the operators.

The rates on lumber from the South and Southwest that is destined to the markets north of the Ohio River are adjusted under fixed differences. The rate by way of St. Louis is 2 cents higher than by way of Cairo; to many points in Indiana it is but 1 cent higher.

Reference has been made to the freight rates as af-

fecting the lumber industry of the Pacific Coast in that part of the previous chapter devoted to the freight rate structure of that region. As the traffic problems of the Pacific Coast are in large measure peculiar thereto, it has seemed advisable to include mention of the commodities constituting that traffic in the outline of those problems.

(5) THE DIFFERENT TYPES OF COMMODITY RATE STRUCTURES

On the great staple commodities it is necessary to so adjust rates as to maintain equilibrium between the places of production and the various markets. In the case of grain and grain products flowing in the great channels of traffic from one region to another this is accomplished, as we have seen, by an equalization through different gateways. The solution of the problem is similar in the case of livestock and dressed meats. These commodities are all produced throughout a widely extended area, and are marketed in an area that is also widely extended.

In the case of such commodities as wool and bullion, while the production is over a widely extended area, their flow is along converging lines to places of final manufacture comparatively few in number and in an area limited in extent. The rate adjustment, therefore, is more especially concerned with the establishment of an equilibrium between the places of production.

The adjustment in the case of cotton is in a measure akin to that on grain and grain products, although the cotton mills are not nearly so widely distributed as the flour mills. In the case of lumber, of which the sources of supply are no longer so numerous as in former years, the crux of the adjustment lies in the contest between the railroads and the lumbermen as to whether the rate shall be higher or lower within the margin that the traffic will readily bear.

In the case of fruits and vegetables is approached another type of structure—that which has to take into

account the necessity for such an adjustment as will maintain an equilibrium in common markets between products from widely divergent sources of supply. In Chicago and the cities of the Atlantic seaboard, and in the intervening cities, for example, the vegetables of Florida compete with those of Mississippi, and the oranges of Florida with those from the Pacific Coast.

The maintenance of the equilibrium in common markets on a product that comes from widely divergent sources of supply is, perhaps, the more difficult in the case of coal than of any other commodity. Practically the entire supply of anthracite coal comes from northeastern Pennsylvania, whence it is distributed for consumption throughout the North Atlantic States, and, to a lesser degree, in the West and the Northwest. Bituminous coal fields, supplying the North Atlantic States, extend from the Clearfield region in Pennsylvania down through Maryland and the Virginias. The competition between these fields and the lines serving them for the seaboard trade was so continuous and unrelentingly bitter through a long series of years that it was a principal factor which led to the "community of interest" between the lines extending from these coal fields to the East.

The coal fields of western Pennsylvania, eastern and southern Ohio, of West Virginia, and to a limited extent, of Virginia, are in competition for the lake trade, that which is carried by rail to the lower ports of Lake Erie and thence by vessel to the ports of the upper lakes, as far as Duluth, where it is distributed throughout the Northwest. The adjustment of rates to maintain equilibrium between these competitors has been a perplexing problem, the quality of the coal, as well as the conditions of transportation, needing to be taken into consideration. Coal from these fields also competes throughout Ohio, Indiana, Michigan, and Illinois, also contesting these markets with the coal of southern Ohio, northern Kentucky, central Michigan, central and southern Indiana, and of central and southern Illinois,

this multiplying competition leading to further complications that make the rate adjustment all the more difficult. At different places along the Mississippi Valley there is competition between the coal that comes from Illinois, Arkansas, Missouri, and Iowa, and to a degree the coal from these fields is in rivalry in the Northwest with that which has come up via the Lakes. In the trans-Missouri territory the coal from Iowa, Missouri, Arkansas, and southeastern Kansas competes, certain markets also being entered by coal from Oklahoma and Colorado. In the Rocky Mountain region there is competition between the mines of New Mexico on the south, and those of Colorado, Wyoming, and the Crow's Nest field of Canada to the north. The Southeast is supplied with coal from the Virginias, Kentucky, Tennessee, and Alabama. The fact that the operators of each field continuously desire to increase their output and extend their markets leads to constant pressure upon the railroads for reductions and readjustments of rates, the freight rate on coal always being a considerable element in its price.

The competition between manufacturers of brick and cement in nearly all respects is similar, except that ordinarily it does not apply over such extended areas. For example, in the Clearfield district of Pennsylvania vast quantities of fine fire clay underlie the coal seams. Not many years ago the practicability of manufacturing fire brick from this clay in this district was investigated, but on account of the locality not being in the main channels of traffic, the rates then in effect would not let the brick enter the markets in competition with the fire brick from the Pittsburg and Johnstown districts, or compete in wider markets with the brick manufactured in southern Ohio or New Jersey. A fire brick plant at Pittsburg, of course, had the Pittsburg district market at hand throughout which its delivery cost was low; this gave it an advantage over the plant 150 miles away in the Clearfield district, which, however, was favored

by being nearer the source of raw material. In adjusting the transportation charge on the fire brick from the Clearfield district and on the raw material from the Pittsburgh district, there was the endeavor to place the competing districts as nearly as possible on a parity so far as their cost of manufacture is concerned.

Deposits of glass sand that are abundant in the center of the State of Pennsylvania have been developed by the adjustment of rates so that it may be shipped to plants near a fuel supply, where the manufacture of glass is practicable. For instance, the enormous glass plants along the Allegheny River and in the Pittsburgh district must compete with those at Kane and thereabouts, where there is both sand and fuel-gas, and also with the glass plants of Indiana. To these various places the railroads must so fix their tariffs on the various materials that the plants may continue in operation.

Cement is produced in various localities in this eastern portion of the United States, the plants in each locality being designated as the Pennsylvania group, the New Jersey group, the Hudson River group, the Virginia group, and the Ohio group. To protect the cement industries on its lines, each railroad company has been obliged to make such adjustment of rates on coal to the cement plants as will permit a cost of manufacture enabling their product to be sold in as extended a market as can be maintained. The Lehigh district of Pennsylvania is so abundantly supplied with cement rock that it would seem to be the natural place for the manufacture of cement, but the railroad company has been obliged time and again to adjust its rates to the needs of the industry, and the situation will be the more complicated as the manufacture of cement from furnace slag is still further developed. Cement from this region was once extensively shipped to the Middle West, but these markets have been absorbed by plants erected in recent years in the Mississippi Valley.

It goes without saying that the adjustment of rates

between competing districts is not always effected without friction between the producers of one district and those of another, or between one and another producer of the same district. Every producer is at nearly all times trying to extend his market, and he besieges the railroad company for rates that will make possible that extension, even although the concession which he seeks will work to the injury of a competitor or of a competing region entitled to as much consideration. A producer is prone to regard the market in his vicinity as belonging to him by natural right, and to regard sales in a distant market as so much extra gain. This tendency is especially manifest in times of great prosperity, when there is on every hand the stimulus to exertion.

Other kinds of complications that beset the railroads are indicated by the following examples. In northern Indiana a great many roads are building for which can be used either crushed stone from various quarries that are respectively in the vicinity of Chicago, Toledo, and Milwaukee, or gravel from gravel pits within a few miles of the roads. To enable the quarry owners to compete with the gravel pits, it has been necessary for the railroads to make a very low rate on crushed stone for use in the country roads, and they have been forced to apply the low rates made because of this contingency as the basis for rates on crushed stone employed for other purposes throughout a considerable section.

Along the south shore of Lake Michigan are sand dunes hundreds of feet high bordering the tracks of the railroads for thirty-five miles or more. The railroad company naturally desired to rid its track of this menace, and when demand arose for sand for use in the embankments made by the railroads upon which to elevate their tracks in Chicago and its vicinity, this company made rates of \$4.00 and \$5.00 per car on fifteen-ton cars, and \$7.00 and \$8.00 per car on fifty-ton cars for distances of thirty and forty miles into Chicago. This rate was profitable enough for cars that ran with full loads in

long trains at frequent intervals. Other sand shippers insisted, however, that correspondingly low rates be made on sand sold by them for various uses, although moved in but one or two carloads at a time and from sand banks as remote as St. Joseph and Michigan City.

Lime of fine quality is made at Mitchell, Indiana, on a railroad leading into Chicago, and also at Marblehead, near Burlington, Iowa, which is much nearer than Mitchell but on another railroad leading into Chicago. It has been necessary for protection of the lime kilns of Mitchell that the railroad therefrom make the same rate into Chicago as applies from the nearer kilns at Marblehead.

Iowa is a competitive market for salt from Kansas, from Manistee and Ludington, Michigan, and from Detroit, Toledo, and Cleveland. The conflict between these divergent sources of supply and the railroads serving them finally resulted in rates on salt that are practically the same from these various points to the Iowa markets. In like manner the rates on ice from Michigan to Chicago are influenced by the rates from Wisconsin. This rivalry is especially marked in the case of such a large market as Chicago, the population of which is approximately the same as that of the entire State of Wisconsin.

When there is but one source of production of a commodity that commodity is in competition with substitute commodities only; the price, including the transportation charge, is limited by the point at which there will be the substitution of another for that commodity. When there are numerous sources of production there is a greater number of markets which are interwoven by the working of competition. There must be maintained a certain equilibrium for the interest of everyone concerned, and the burden of its maintenance often falls upon the transportation lines. Their traffic officers become the umpires between contending interests, and not infrequently receive the buffeting that is the umpire's usual fate.

IMPORT AND EXPORT TRAFFIC

Through the various ports of the United States are imported in large quantities the materials and products of other countries, and are exported the materials and products of this. The through route formed by a vessel line from a foreign country, through a particular port, in connection with a railroad line from that port to a city in the interior is in competition with a through route formed by a vessel line through another port, in connection with a railroad line leading from that port to the same or to a rival interior city. For example, traffic from Liverpool to Denver may go through either Montreal, Boston, New York, Philadelphia, Baltimore, or Norfolk, and thence by rail to Denver; or it may go through New Orleans or Galveston and thence by rail to Denver.

In the case of export traffic the same conditions exist in reverse direction. As stated on a previous page, the differentials on export grain via the different North Atlantic ports to Liverpool were originally established with the intent of making the through rate from the grain fields to Liverpool the same via any of these ports. The adjustment of the grain export rates via the Gulf also had to take into account the through rate to Liverpool via the Atlantic ports.

The endeavors of different ports and of the railroads serving them to secure either import or export traffic, or both, have obliged the railroads at times, indeed, at nearly all times, to make inland rates on certain traffic far lower than those accorded on similar traffic between the same points that is entirely domestic. This practice has been held to be justifiable by the Supreme Court of the United States. The railroads have also claimed that they have been compelled to rapidly change their rates in accordance with the fluctuations of steamship rates, which often go up and down from day to day as the offering of loads for cargoes are heavy or light. Indeed, the vessel rates

have been known to vary from hour to hour. For example, a ship with two-thirds of a cargo may make a substantial reduction to stimulate the shipment of additional merchandise sufficient to make a complete cargo. This condition has frequently obtained at the southern ports with steamships seeking full cargoes of cotton and naval stores.

It is also evident that a port through which exports naturally flow desires to offer rates to the interior on imports that will attract vessels with inbound cargoes in order that there may be adequate facilities for the outbound traffic. Conversely, it is desirable that a port naturally attracting imports should have favorable rates on export traffic in order that it may have full cargoes for the vessels outbound.

The Interstate Commerce Commission has ruled that the inland rates for both export and import traffic shall not be lowered or advanced, except upon due notice, as provided in the Interstate Commerce Law, and it has also ruled that either the through import or export rates, or else the inland proportions thereof received by the rail lines, shall be published and posted the same as rates on domestic traffic. That is, the Commission states that while it has no jurisdiction over the vessel rates or over the through rates made by the railroads in combination with the vessels, it has jurisdiction over the rates of the railroads between the interior and the ports, and decrees that these rates shall be filed and published the same as other rates applying on interstate commerce.

The lines engaged in transcontinental traffic state that this ruling is especially burdensome to them. For example, to participate in traffic from the Orient to New York they are obliged to accept the agreed percentages of such rates as the steamboats are obliged to make from the Oriental ports. The traffic from Australia and China, for instance, may come to New York either via the vessel routes by way of the Suez Canal, or by way of the vessel and rail routes through San Francisco, or

other of the Pacific ports. The vessels that sail from these lands eastwardly around the globe to the Pacific ports, and the vessels that sail half way around the globe to the west on their way to the American metropolis are in vigorous competition for this traffic. Those that sail toward the East are obliged to rely upon the transcontinental railroads to accept the stipulated percentages from the Pacific ports to various destinations in the United States of such rates as they are obliged to make to secure traffic that otherwise would move in the opposite direction through the Suez Canal and through the ports of the Atlantic to these destinations.

Likewise, the traffic from New York or the interior may go either from the Atlantic ports by way of the Suez Canal, or by rail to the Pacific ports and thence by vessel. The vessel lines from New York via the Suez are under no obligation to publish their rates and are not under any jurisdiction of the Interstate Commerce Commission compelling them to maintain rates. On the contrary, the transcontinental lines which, in connection with the Pacific vessel lines, compete for this traffic to the Orient, are obliged to publish and to adhere to the published proportions that accrue to the rail lines on this traffic. These proportions, in any event, are so much less than they receive on domestic shipments that the railroads fear their publication will lead to demand for a reduction of their domestic rates, and, at the time the Commission made its ruling, stated that they could better afford to withdraw from this traffic, which, although large in the aggregate, is of small consequence in comparison with the aggregate of other shipments, rather than take the risk of having the rates on the domestic traffic reduced. In consideration of these peculiar conditions affecting the transcontinental traffic of the Pacific ports the Commission has reduced the time within which notice of a change of rate may be given to ten days in the case of advances and three days in the case of reductions.

The decision of the Supreme Court permitting the

railroads to charge on import and export traffic lower rates than apply on domestic traffic between the same places is in entire accord with the practice of the state-owned railroads of Germany, which are obliged by the government to encourage the German manufacturers to seek foreign markets by making lower rates on export than on domestic traffic; and that of the National Railroad of Mexico, which contains a stipulation in the concession that it must, in the interests of the Mexican producers, make one-half rates on export traffic. While the American producers are entirely content with the application of this principle on export traffic, they resent its application to import traffic, claiming that thereby the intent of the custom duties is subverted.

CHAPTER IX

EARLY TARIFFS AND CLASSIFICATIONS

No one of the factors entering into the formation of the existing rate structures has been constant. As the railroads have extended, as traffic has developed, as the localization of industries and the currents of commerce have changed, as State and Federal legislation has imposed its decrees, these varying influences have acted and reacted upon the rate adjustments.

When railroads were first projected in the United States, there was no definite basis upon which to establish their tariffs. Costs of maintenance and operation were of uncertain estimate and the economic relations of the transportation function were simple. Certain of the State legislatures, at the time of granting charters, assumed, as a matter of course, that a railroad could furnish transportation at a lesser price than the wagons along the turnpike, and, therefore, arbitrarily decreed that the freight charge should be a greater or less proportion of that customary by wagon. In some parts of the country the wagon toll was 20 cents per cubic foot for articles light in weight, and \$1.00 per 100 pounds for articles heavy in weight, per 100 miles. The minimum charge was for twenty miles, because twenty miles was a day's work, and a lesser haul spoiled the day. A wagon of the kind in general use had a capacity of 200 cubic feet, and four horses could haul 4,000 pounds, or 2 tons. As the charge for 200 cubic feet at 20 cents amounts to \$40.00, and the charge for 4,000 pounds at \$1.00 per hundred weight amounts to \$40.00, the minimum charge for the wagon load was fixed at \$40.00 per hundred miles.

The charter granted by South Carolina, in 1827, to the South Carolina Railroad provided that the freight charge

should not exceed 10 cents per cubic foot for articles light in weight, and 50 cents per 100 pounds for articles heavy in weight, per 100 miles, thus arbitrarily making the railroad tolls one-half the wagon tolls. The railroad accepted this to mean that the usual railroad charge should be one-half the wagon charge: it divided its extent into lengths of ten miles, one-half of the distance for which wagons made a minimum charge, and adjusted its rates at 100 pounds per ten miles. In a charter granted by Georgia, in 1837, it is "Provided, That the charge of transportation or conveyance shall not exceed 25 cents per 100 pounds on heavy articles, and 10 cents per cubic foot on articles of measurement for every 100 miles." The provision as to the rates that generally appeared in the early State charters, however, specifies that there may be charged "such rates per mile as may be agreed upon and established from time to time by the directors of said corporation." Under this discretion various tariffs in divers parts of the country were adjusted to different proportions of the tolls that had been charged by wagon, or by stagecoach, or by canal or other waterway.

As the first railroads were built from one or another seaport for but short distances into the interior, there was nothing to prevent the charge for any given distance being the amount obtained by multiplying the rate per mile by the number of miles. That is, a "distance tariff" prevailed. As the railroads extended, however, it quickly became the practice to accord relatively lower rates for long than for short distances, that is, to make "tapering rates."

The practice of the wagoners to charge by the cubic foot for articles light in weight, and by the 100 pounds for articles heavy in weight was continued by the railroads; but it quickly developed that it was not easy to assign certain articles to one or another of these broad classes. This difficulty was enhanced by the fact that the railroads brought about an increase not only in the volume but in the diversity of commodities offered

for transportation; things differed, not only in bulk and weight, but in value, and the way in which they were packed, while many articles were not packed or wrapped at all. A more elaborate grouping—such as had been used by canals both in Great Britain and the United States before there were railroads—was obviously necessary. The initial steps of this development, as it pertains to the railroads of the United States, are lost to record, but that much progress was made within thirty years is manifest from a document issued by the South Carolina Railroad in 1855, copies of which are extant. At the top four classes of articles are specified, the first including "hats, bonnets, saddles, furniture, pianos, tea, and other light articles," for which the charge was made per cubic foot, ranging from 4 cents for 7 miles to 10 cents for 136 miles. As furniture and pianos are not exactly light in weight, they were probably placed in the first class because of their high value.

The second class included "dry goods, shoes, glass, paint, glassware, drugs, gensing, pinkroot, confectionery, raisins, figs, dates, camphine, spirits, turpentine, feathers, stoves, hollow ware, bows and shafts, pepper, spice, ginger." For these articles the charge applied per 100 pounds, ranging from 25 cents for 25 miles, to 50 cents for 136 miles. Here, again, the inclusion of feathers and stoves in the same class implies that commercial as well as transportation conditions received consideration.

The third class embraced "butter, peas, lard, rope, tobacco, leather, dry hides, tin, copper, cast steel, hoop and sheet iron, machinery in boxes, coils of wire, carriage springs and axles, rice, soap, candles, hardware, guns, bagging, tallow, beeswax, oil, white lead, wool, dressed marble, mahogany bedsteads, old furniture, crockery, doors, sashes and blinds, hubs, spokes, chair stuff, melons." The charge applied per 100 pounds, ranging from 18 cents for 25 miles to 40 cents for 136 miles.

The fourth class comprised "bacon, coffee, sugar, nails, spikes, mill gearing, ice, steel—other than cast—pig and bar iron, bundle iron, grind and mill stones, coal,

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green hides, hair and rags, potash, soda ash, german clay, iron railings, shot and lead, mineral paint, undressed marble, stone, hay, moss, tar, pitch, crude turpentine, cotton yarn and domestics, down, paper down, tanbark, stoneware, cottonseed, dried fruit, railroad wheels and axles, car springs, copper ore." The charge applied per 100 pounds, ranging from 15 cents for 25 miles to 30 cents for 136 miles. The inclusion of cast steel, hoop and sheet iron in class third, while other kinds of steel and pig and bar iron were placed in class fourth shows a variance in the tariff on similar articles intended for different purposes.

In addition to the articles ranged in these classes especial listing is made of agricultural implements, molasses, liquor, barrels, lime, flour, cotton, grain, salt, chairs, carriages and livestock. Under these headings the charge is so much for each agricultural implement, vehicle, barrel, cask, hogshead, pipe, tierce, kit, sack, bale, as the case may be of fish, beef, pork, bread, crackers, fruit, oysters, shoe pegs, beets, potatoes, onions, apples, cement, plaster, lime. Flour was charged so much per barrel or so much per sack; cotton so much per bale, not exceeding 400 pounds; grain so much per bushel; chairs so much per dozen; horses, mules, cows, or oxen so much for one, so much for two or three, so much for four, for five, for ten; sheep, deer, lambs, goats, pigs, calves, dogs, were carried for so much apiece; turkeys, geese, ducks, and fowls, for so much per dozen. Provision was made for a rate by the carload of any one kind of livestock with one passenger in charge, the load not to exceed 16,000 pounds.

A list of special rates specified the transportation charge for wood by the cord, lumber and bricks by the thousand, the rate being 20 per cent. or more higher in the winter than in the summer; and for resin, tar, and crude turpentine, staple products of the region, a rate per barrel much lower than for other articles packed in barrels.

This document was both a tariff and a classification,

Various articles taking the same rate were grouped in a class and the rate applying to the class was specified on the same sheet. For articles which, because of volume or value or peculiar conditions, such as vitriol, gunpowder, eggs, and spice, could not well be grouped in any of the classes, "miscellaneous rates" were specified. This sheet named, all told, fewer than 300 things as taking the rate specified for any one of the four classes, or special or miscellaneous rates. Before many years a more varied agriculture, and particularly a more varied manufacture, caused a vast increase in the number of the articles of traffic. It therefore was no longer feasible for the classification and the tariff to be issued in one document. The articles were listed alphabetically, with indication of their respective classification in one document, and the rates as they applied for the different classes in another. By 1880 the number of articles necessary for inclusion in the various groups exceeded one thousand. At the present time each of the principal classifications contains nearly 6,000 items, and there are numerous articles moving at commodity rates which are embodied in special tariffs. It is noteworthy that, while this early Southern classification contained four classes, the classifications used in New England indicated rates for a "first class," for "special commodities belonging to the first class," and for various other "special" articles. The original tariff of the Louisville and Nashville Railroad included but three classes, the first being rated by bulk, the second by weight, and the third containing livestock. As late as 1873 this railroad rated poultry by the dozen, charging more for Muscovy than for ordinary ducks.

The principle primarily underlying classification is the endeavor to apply—without listing a separate rate for each article—to each of the articles of commerce that rate which it should equitably pay, and which will cause the revenue derived from the aggregate quantity of that article transported to be in proper proportion to the total revenue derived from the conveyance of all articles.

The original simple distinction between articles light in weight and those heavy in weight has been complicated by such considerations as, to quote from the Eleventh Annual Report of the Interstate Commerce Commission, "Whether commodities are crude, rough, or finished; liquid or dry; knocked down or set up; loose or in bulk; nested or in boxes; or otherwise packed; if vegetables, whether green or dry, desiccated or evaporated; the market value and the shipper's representation as to their character; the cost of service, length and duration of haul; the season and manner of shipment; the space occupied and weight; whether in carload or less than carload lots; the volume of annual shipments to be calculated on; the sort of car required, whether flat, gondola, box, tank, or special; whether ice or heat must be furnished; the speed of trains necessary for perishable or otherwise rush goods; the risk of handling, either to the goods themselves or other property; the weights, actual and estimated; the carriers' risk or owners' release from damage or loss."

The classification of commodities according to such varied considerations made possible the abandonment of the charges based upon such heterogeneous units as a cubic foot, an agricultural implement, a vehicle, a dozen, a barrel, a cask, a hogshead, or a cord. The assignment of divers commodities to different classes, in each of which the especial characteristics of one commodity were weighed against those of another, permitted the adoption of 100 pounds as the basis for the transportation charge on all, except the heaviest commodities, for which the ton is the unit. That is, the 100 pounds became the common denominator of all commodities, and the class rate the numerator of the commodities included in the class.

Certain exceptions to this basis endured for several years. Foremost of these was the charge per carload—that is, upon the carload as a unit—for livestock. This was because the early cars in which this could be shipped were of about the same size, the load of any

particular kind of livestock averaging about the same in number and weight, and it not being practicable to establish scales adequate for the weighing of such heavy shipments at all places where livestock was loaded. For somewhat similar considerations rates for lumber by the carload endured for many years.

It became customary to accord what were designated as carload rates—based upon the hundredweight as the unit—on many other commodities when shipped in carload lots, the prime distinction between carload and less than carload shipments being that the former are loaded by the shipper and unloaded by the consignee, while the latter, as a rule, are delivered at the freight house by the shipper, unloaded and placed in the cars by the employees of the railroad: at the place of consignment they are likewise unloaded from the cars and placed in the wagons by the employees of the railroad. The lower cost of handling freight that moved thus in carloads, together with the assurance of a full load per car, led to the making of a lower relative rate for a carload than a less than carload shipment. The carload rate upon such commodities was not only specified as so much per 100 pounds, but to insure that it would not apply upon less than a reasonably full load, the minimum load for which that rate would apply was also specified. Such carload rates were at first granted upon cordwood, coal, lime, cement, and such other commodities as could be loaded by a shipper in an empty car placed for his exclusive use upon a "team" track. Later, as spur tracks were built from the railroad tracks to mines, mills, and warehouses, it became customary to make lower relative rates for carload than for less than carload shipments on the commodities loaded into the empty cars placed upon such spur tracks. Thus it came about that tariffs contain two columns, in one of which is listed the LCL, or less than carload rate per 100 pounds, and in the other the CL, or carload rate per 100 pounds, with the minimum carload weight.

To find the freight charge on an article offered for

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shipment, a freight agent, therefore, looks first at the classification, where he finds in what class it is grouped; then from the tariff he ascertains the rate applying on commodities of that class, and if the offering be of a carload, finds out whether or not a rate by the carload is designated.

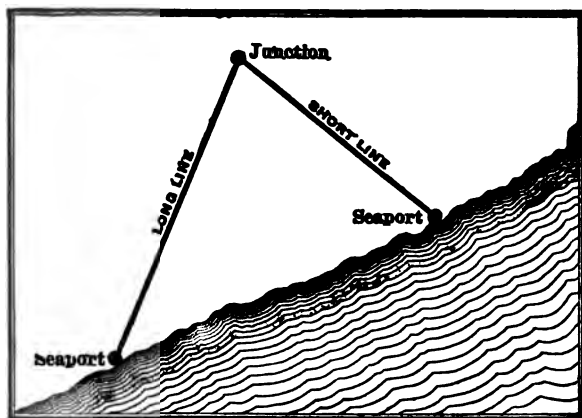
The development of the classifications and rate adjustments outlined in this chapter is that which took place, speaking broadly and generally, between the building of the first railroads and the development of through traffic succeeding the Civil War. During the initial steps of this development, the practices of one railroad had no immediate and direct effect upon those of another; competition was remote; each railroad developed its classifications and rates for itself.

CHAPTER X

EARLY RIVALRIES AND THE BEGINNING OF THROUGH SERVICE

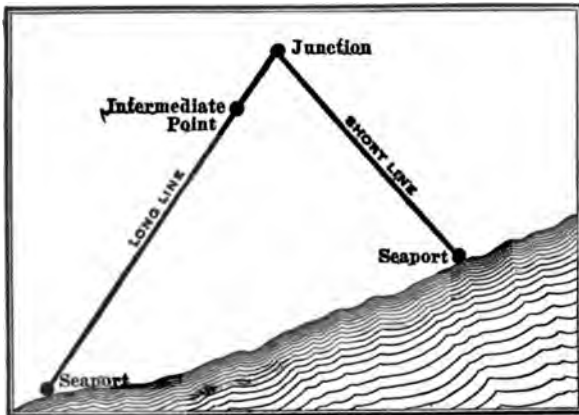
I

By about 1850 many of the railroads extending into the interior had penetrated territory whence traffic could move via either one or another railroad to the coast, and, indeed, at many places railroads reaching from different and naturally rival seaports had met at junction points in the interior. The rivalry of the seaports necessarily implicated their respective railroads and thus arose



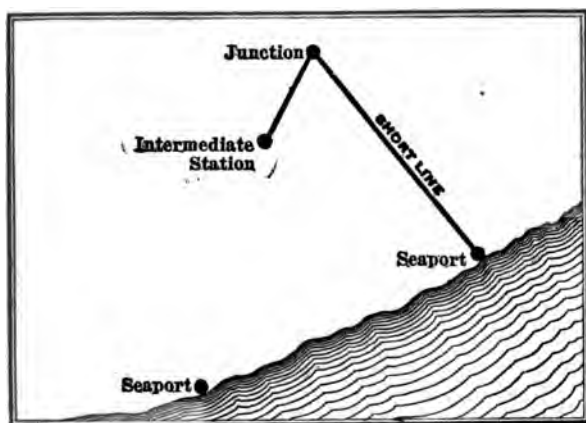
competition between them. Contiguous stations, on rival railroads, through either of which traffic to and from the intervening region could flow without physical inconvenience to shippers or consignees, in many cases were given the same rates to and from the seaboard. Between the seaboard and an interior junction it was necessary that rates by competing lines be the same.

Thus arose modifications of the "distance tariff," similar to those that doubtless had previously been effected by competition between a railroad and a river or canal. If the longer line between the seaboard and the junction did not make the same rate as the shorter line it would carry none of the traffic. To make the rate equal to that by the shorter line meant to abandon the distance basis of multiplying the rate for one mile by the number of miles. In making the same rate from its seaport to the junction point as applied by the shorter line from its seaport, the longer line was compelled, in many



cases, to make a lower rate to the junction point than it had theretofore made to stations not so far away. Therefore, if it continued to charge the former rate to an intermediate station, it would carry traffic for a longer distance at a lower rate than for a shorter distance. If it reduced the rate to the intermediate station the revenue secured on traffic to and from that station would be diminished, even if the traffic to and from that station was not directly affected by the competition of the shorter line. The managers of the longer railroad could not but reflect that inasmuch as the rates to the intermediate

stations were those that had normally been charged theretofore, there was no reason that their revenue, already diminished by the reduction forced in the rates between the junction point and the seaport, should be the further lessened by a reduction which they were not obliged to make in the rates to and from the intermediate stations. The residents, and particularly the merchants, at the intermediate stations naturally reasoned that if the railroad company could afford to reduce the rate on traffic between the seaport and the farther point, it could afford to make at least the same rate to the intermediate stations to and from which the haul was not so



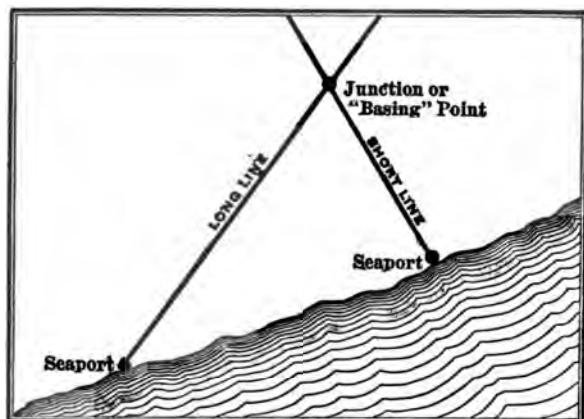
long. It appealed to them that by being compelled to pay a higher rate than the farther station, they were discriminated against and unjustly so. The railroad company, while admitting the discrimination, would not admit its injustice, stating that if it kept up its rates to the former level between the seaport and the junction point it would carry none of the traffic, and its total revenue would be diminished by the amount derivable from such traffic as it might obtain at the lower rate, while the residents of the intermediate stations would continue to pay the same rate as formerly. It would be

their contention that the discrimination against an intermediate station would not be unjust so long as the rate charged from the seaport to that station was not greater than the rate forced by the short line from the seaport to the junction station, plus the rate from the junction back to the intermediate station. In reinforcement of this, they would point out that if there were no railroad between the seaport on the longer line and the intermediate station, but between the junction point and the intermediate station only, the rate which that intermediate station would pay from the seaport on the shorter line would be the rate therefrom to the junction point, plus the rate from the junction point to the station; that inasmuch as this was the rate charged by the longer line to the intermediate station under the rate adjustment forced upon it, the discrimination against the intermediate station was not unfair and that station had no real grievance.

The residents, and particularly the merchants, of the junction point, however, undoubtedly benefited by the difference. The tillers of the soil or the producers of other commodities at the junction point had the advantage of two routes of transportation to rival seaports, thereby having the benefit of rival markets to which to consign their products. The merchants had the benefit of rival sources of supply whence to obtain their wares, and they had service of rival railroads in transportation. These merchants, moreover, had the advantage of two routes over which they could ship their wares to consumers in the adjoining territory, or, if the rival railroads not only extended to but through the junction point, these merchants had practically the benefit of four routes over which they could ship their wares. These wider avenues of disposition permitted larger sales and, consequently, the purchase of stocks in greater quantities, —often in full carloads, the advantage of the carload rate still further stimulating sales. The consequent enlargement of the business of the junction would cause merchants to open establishments there, farmers to bring

their produce there. Artisans would open shops, the increasing population would attract doctors and lawyers, schools would be built, real estate enhance in value. The junction point would far outstrip in importance not only the intervening stations on the longer line from the seaboard, but the intermediate stations on the shorter route.

Inasmuch as the longer line from the seaboard, by reason of the competition of the shorter line, was forced to abandon the distance tariff from its seaport to the junction, it follows that it could not apply the distance tariff from the seaport to points beyond the junction.



Were it to do so, merchandise could be shipped from the seaport to the junction at the competitive-less-than-distance-tariff rate, and from the junction to a point beyond at the distance rate applying from the junction, the sum of the two rates being less than a regular distance tariff rate from the seaport to the station beyond the junction. The railroad, therefore, in making rates from the seaport to a point beyond the junction would be obliged to add to the competitive rate to the junction the distance tariff rate therefrom to the point beyond. That is, the junction point would be a "basing point," this designa-

tion in its original significance simply meaning a point whereon rates are based; that is, wherefrom a tariff takes a fresh start. The fact that a basing point is a place to which the rates from some important point or some important area of shipment have for some competitive or other commercial reason been made lower than if calculated upon the distance, necessarily gives it an advantage in obtaining merchandise from that point or area of shipment over intermediate stations, to which higher rates may be maintained. In the vast majority of cases, however, a basing point owes its status to economic conditions which force the railroads to accord it that recognition.

II

In the decade preceding the Civil War, as competing railroads were extended through competitive territory, their rivalry increased. Each railroad sought traffic for its own rails. The through billing of freight was unheard of. When it was necessary that a commodity be transported over the lines of two or more railroads, the conveyance by each road was a separate act of transportation for which an individual bill of lading was issued. To allow freight cars to be moved from the tracks of one over the tracks of another railroad was beyond consideration. For a railroad company to permit its cars to go away from its own tracks would have seemed equivalent to making the other company a present of them. Indeed, the prevention of such shifting was a factor in causing the tracks of different railroads to be of different gauges; that is, of different widths between the rails. The managers of a railroad company regarded its operation in pretty much the same light as a merchant viewed the conduct of his own business, as an instrumentality through which to make money and incidentally to fight its competitors.

During the Civil War the military necessities of the government compelled the forwarding of troops from one part of the country to another with the utmost

despatch, and, therefore, without change of cars. This often led to the coaches of one railroad being transferred for conveyance over the rails of another. The extending mail service rendered it increasingly inconvenient to transfer mails at a rail terminus from the mail car on one to a mail car on the tracks of another railroad. The possibilities of through car movement awakened the people in general to a sense of the inconvenience caused by the transfer of freight from the cars of one to the cars of another railroad.

The railroads, working under charters granted by individual States, could claim with entire accuracy that not only were they not under compulsion, but that they were not even authorized to allow their cars to go from their own rails. Indeed, to make sure that none of the trade of the southern part of New York should go to other than New York City, the Erie was prohibited, under penalty of forfeiture of its charter, from making connections with any other road. Similar restrictions were imposed by other States and by municipalities upon other railroads. The sentiment of the country, however, became overwhelmingly in favor of the through billing and through carrying of traffic that had to pass over the tracks of two or more railroads. This led the Congress in 1866 to enact that "Every railroad company of the United States . . . is hereby authorized to carry . . . all passengers, . . . freight and property on their way from any State to another State . . . and to connect with roads of other States, so as to form continuous lines for the transportation of the same to the place of destination." The Supreme Court stated that the intent of this act was to remove the restrictions upon through transportation and to declare in favor of the formation of continuous through lines. The terms of the act, however, do not compel, but merely authorize the formation of such through lines.

One of the first conspicuous effects of this statute was the organization of the through freight lines, a natural development of the forwarding companies, of

which several were in existence. The forwarding company had its origin at the time when a large proportion of business houses were not equipped with their own drays, trucks, and horses for the conveyance of merchandise to and from the railroad stations. The forwarding company performed this service as it is performed by local transfer companies to-day. From this it was but a step for the forwarding company at the place of shipment to notify its own agents or another forwarding company at the place of destination to deliver the merchandise from the station to the consignee. It was a further natural step for the forwarding company, not only to perform the transportation between the stations and the storehouse for its patrons, but to make especial arrangements with the railroad company, which led to having cars for the exclusive accommodation of wares shipped by it. That is, the forwarding company came to perform for heavy freight on the line of one railroad the same offices that the express companies do for the lighter and more valuable freight at this time.

With the passage of the Act of 1866, authorizing through routes, it was but another step for the forwarding company to hire a car, not only for transportation over one railroad, but to go through over the lines of connecting railroads. In this way originated the Merchants' Despatch, one of the through freight lines operating over the New York Central System; and the Union Line operating over the Pennsylvania System. Such through freight lines as these were corporate organizations, distinct from those owning the railroads, but the officers of the railroads were often large stockholders in them. Through freight lines were also formed by the immediate co-operation of railroad companies. The company owning each railroad that was a link in a through route between two great commercial centers would assign a certain number of freight cars to be used in carrying through traffic over the several links between those centers. Such cars were usually marked, in addition to the name of the proprietary company, with

an emblem to indicate their dedication to the through service: as, for example, a blue cross, a green ball, a red star. The first of these through freight organizations was the Blue Line, established in the late sixties, and rendering service over what were then separate and distinct railroads between Chicago and Boston. The through movement of a car over the various tracks naturally afforded quicker through service than was possible by the transfer of freight from one car to another at the junctions. These through freight lines were, therefore, generally designated as fast freight lines, and many of them came into existence. Competitive movement over other lines was usually retarded by the lack of provision for through traffic, being at places handicapped by the necessity of lifting a car at a junction from the trucks with wheels adjusted to the gauge of one railroad over on to trucks with wheels adjusted to the gauge of the other.

Fast freight lines still exist, but their corporate identity has, in nearly, if not in all cases, been merged in that of the railroad companies owning the lines over which they operate. They remain as instrumentalities for facilitating the movement of through freight, but their organizations are now bureaus of the freight traffic departments of the respective lines.

CHAPTER XI

RATE WARS AND TRAFFIC AGREEMENTS

THE rapid extension of the railroads that was a foremost characteristic of the great activity that succeeded the Civil War, developed many conditions that modified the distance tariffs of the early short and local lines. The intersection of two or more railroads at a junction point frequently led them to adopt the same rate between that point and rival termini, as described in the previous chapter. When, from one and the same seaport, two or more railroads stretched to the same interior commercial center—the marked example being the various lines connecting New York and Chicago—it was necessary for the divers lines to establish the same rate between these termini common to each of them. This also led to a lower charge by the longer lines between these termini than to and from the intermediate stations to which the ordinary distance rate was higher. Railroads between cities that were also connected either by coastwise vessels or boats, by lake, river, or canal, were obliged to reduce their rates between these places having water communication to a level that would attract at least a portion of the traffic to their rails. As such water-forced rates were usually far less than those made on the distance tariff, the application of a higher rate for the shorter haul to and from intermediate stations than for the longer haul between the competitive points became conspicuous.

As the railroads grew more numerous, extending both in length and through lateral branches, the greater became the number of the points between which there was competition by two or more railroads, or by one or more railroads and water lines.

The rapidly extending and frequently crossing rail-

roads caused such a multiplicity of junctions that the establishment of a tariff applicable over the various lines between competitive points was difficult in any event, and impossible, unless there were agreement between the competing lines as to what the rate should be.

The Act of Congress of 1866 authorizing the through billing of traffic and the formation of continuous lines naturally brought the traffic officers of the railroads into communication to a greater degree than theretofore. The officers of the early railroads were not prone to exchange information and ideas as to organization, methods of operation, practice and procedure, although there were occasional instances of such interchange. It is noteworthy that the presidents of the trunk lines united in New York in September, 1858, "in a conference to effect a restoration of harmonious relations, just principles of action, and a remunerative tariff." The formation of through lines, necessitating the establishment of conditions under which cars would be moved and bills of lading issued over different lines, and the necessity for agreement as to the proportions of through rates that would be accepted by each of the railroads over which they applied, brought the officers of the various lines into a more definite intercourse. Although there was a marked tendency to restrict through car service and through billing to lines that were affiliated, through ownership or agreement, for the interchange of traffic, there was an increasing communication, both by mail and telegraph and through personal conferences, between officers even of the rival systems. These conferences had largely to do with the fixing of rates to and from competitive points.

The building of railroads, however, was in advance of the progress of other lines of activity and led to the provision of transportation facilities in excess of the traffic. Competition frequently resulted, therefore, not only in a longer line charging the same rate between competitive points as a shorter line, but in its charging a lower rate than the shorter line which, other things

equal, could give quicker service. This cutting of a rate by a longer line would force the shorter line to reduce its rate in self-protection, and an alternate cutting of rates between the rival lines not infrequently ensued. This procedure, which, however, did not invariably originate with a longer line, was known as a rate war, and often continued until one or more of the competing lines had lost so much revenue that a treaty of peace was willingly discussed. The officers of the rival lines would meet, specify the rates that should apply between the competitive points and agree to maintain them. Each railroad, however, needed traffic, and in those days there was never enough of it to satisfy all of them. When exactly the same rate was observed the short and direct, which ordinarily was the best managed line, would naturally secure the greater share of the traffic. A longer and weaker line would find it necessary to resort to stealthy cuts, which almost invariably led to open wars. Important shippers were never slow to take advantage of the railroads. The traffic officer of one line would be advised by a man with a large shipment that his rival had quietly offered a cut rate. This may or may not have been true, but the traffic officer, to make sure of the shipment, would meet the reported rate, or possibly make a further reduction. Concessions were not only accorded directly to the shippers, but commissions were paid to anyone through whose influence traffic could be obtained, to prominent townsmen and influential farmers. The cutting of rates and rate wars, inasmuch as they particularly affected competitive traffic which passed over considerable distances between termini or principal junction points, had little or no effect upon the rates to and from intermediate stations where there was no competition, and which were usually maintained at full tariff. The charging of a lower rate for a longer than for a shorter haul was, therefore, a common practice, and as the competitive points were those of greater commercial importance, their aggrandizement was enhanced.

The desire to obtain traffic, coupled with the undesir-

able results that followed the exposure of rate cutting, led to the widespread usage of the device known as rebating. While rebates may have been given at times in previous decades, their use was but sporadic and intermittent until the period now under consideration. Instead of making a direct reduction in a published rate and allowing a shipper to pay the reduced rate in cash, it would be arranged that a shipper pay the full published rate and the railroad subsequently return to him the amount of the agreed reduction; that is, the difference would be rebated to him. This device, which came conspicuously into use in the years immediately succeeding the Civil War, accomplished its purpose as long as it was not detected; but the solicitation of traffic on the part of the rival railroads, and the shopping around among the railroads for still further concessions by the shippers, who were never satisfied, rendered it increasingly difficult for the giving of a rebate long to be a secret. The extent of the rebate, however, often remained unknown, the railroad granting it not being willing to divulge the amount, while a recipient would usually conceal the exact concession in his dickering with other roads. The railroad agents, therefore, were often working in the dark. Neither railroad nor shipper knew what concessions were obtained from other railroads by other shippers. A railroad would not know what terms one of its shippers was obtaining from another road, and a shipper would not know what terms a railroad was granting to other shippers. Competing railroads and competing shippers were all mutually suspicious. What with the open cutting of rates, the rebates and other stealthy devices, there was no stability of rates. They were more or less one day than on the previous day, and they might rise or fall on the morrow. Indeed, transportation was regarded by both railroads and shippers as a matter of bargain and sale, the shrewdest shippers securing the lowest rates, and the cleverest freight solicitor the largest traffic. Moreover, the business rivalry of the traffic officers and freight solicitors often degenerated into per-

sonal antagonism, resulting in a desire on the part of one to take a shipment away from a competitor regardless of the revenue to be derived therefrom.

The directing officers of the railroad companies continually deplored this state of affairs. They entered into agreement after agreement, each of which was broken almost as soon as it was made through the succumbing of some traffic officer to the tempting offer of a large shipment if he would depart from the published tariff, or, as often happened, through the initiative of the traffic officer in deliberately offering a cut rate.

In nearly all other lines of business, when a competitor is driven into bankruptcy he is sold out by the sheriff and his competition ceases. When a railroad company is driven into bankruptcy the rails, stations, cars, and locomotives cannot be used for another purpose. Bankruptcy simply means that no consideration need be given to the payment of return on capital, the railroad continuing in operation a more dangerous competitor than before.

The problem facing those charged with the direction of the railroads was to establish and maintain rates and at the same time contrive that each of competing lines should receive a fair share of competitive traffic. The most efficient instrumentality to this end was finally found to be an agreement whereby to each of the lines engaged in certain competitive traffic was assigned, for a specified period, a fixed percentage of that traffic as the share which would probably come to it under normal conditions at even rates. Reports of all such competitive traffic carried by each line were made to a central authority. At the end of a specified period, if any line had either exceeded or fallen below its allowed percentage, it either contributed to or received from the other lines an amount necessary to make its revenue accord with the amount that would have accrued from the conveyance of the exact amount of the traffic allotted under the percentage agreement. This arrangement was designated as a money pool. If a road continually exceeded or ran below the

stipulated allotment its percentage was increased or decreased for the succeeding pooling period. The first pool of importance was that organized in 1870 by the lines extending between Chicago and Omaha.

Another kind of agreement provided for the distribution of competitive traffic in agreed proportions by the forwarding of freight now by one line and then by another as might be necessary to preserve the proportions. This was known as a tonnage pool.

To enable a long line or one of inferior service, party to a pool, to attract the share of traffic awarded to it and thus to minimize its temptation to cut rates, it became customary to permit such a line to charge a specified rate, sufficiently lower than that by the shorter and stronger line, to counterbalance its disadvantages. Such a lower rate between competitive points is designated as a "differential rate." It is an instrumentality for the preservation of rate equilibrium that is still in use, although pools have been abolished. The term "differential" has unfortunately been given other significance. Its use to designate differences in rates accorded competing cities, as the "grain differentials" allowed Baltimore and Philadelphia under New York and Boston, is analogous, but it is often applied when the simple expression "differing rates" would suffice.

Even under a pool, however, it was difficult to suppress entirely the cutting of rates and the giving of rebates. Each line endeavored to increase the proportion of the traffic which it carried in order that at the time when the percentages were readjusted it might be awarded a larger share. The pooling arrangements, however, unquestionably tended toward stability of rates. The discussion of troublesome problems led in the direction of a harmonious and uniform solution.

The uncertain status of rate making in the Trunk Line Territory was put on a better basis by the adoption of the Trunk Line Percentage System. A community believing itself entitled to a lower percentage under this system presented its claims to the Trunk Line Associa-

tion, by which they were considered and adjudication made with reference to all interests involved. During the preceding era railroads serving a dissatisfied community were prone, regardless of other considerations, to make such rates to and from that community as they pleased. In the South the cotton traffic was distributed among the various lines to the general satisfaction of the railroads and the shippers.

Through the traffic associations repeated attempts were made to abolish the granting of passes, reduced rates, stipends, commissions or gratuities for the purpose of influencing business. Divisions of through rates were agreed upon; rates in general were equalized between competitive cities, competing lines and competing commodities. It was customary for each of these traffic associations to appoint a classification committee to which recommendations were made as to the classification of various articles as questions were raised by shippers, and as, through the development of industry, commodities were produced not theretofore known to traffic but which had to be classified and rated. For example, the distribution of fruits and vegetables to remote markets necessitated rate adjustments peculiar to the traffic, as did the commerce in mineral waters, the rise of various electrical appliances and the divers by-products of this industry and that.

In connection with the traffic association concerned with the broader questions of rate agreement and maintenance, rate divisions and classifications in a general traffic district, subordinate traffic associations were formed at each of the principal commercial centers within each general traffic district. Questions as to local traffic problems came up before and were discussed by these smaller associations, sometimes settled by them, but referred, when necessary, to a general association.

Through these various instrumentalities the railroads were working out their own salvation. The rate chaos was beginning to crystallize. Out of the nebulous condition that characterized an industrial and commercial

transformation were evolving organizations working for equity and stability in the freight rate adjustment.

During the periods of traffic associations of various kinds, of pooling agreements and of arbitration commissions, came a vast increase in the traffic of the country consequent upon the development of industry and commerce, and the growth and diffusion of population. Below the disturbance of the surface caused by the cutting and rebate giving, under the influence of rate modifying forces that were compelling recognition, the freight rate structures of the different traffic regions were assuming form. Rates were being adjusted that rival producing regions might reach reasonable markets, that rival commercial centers might have their logical areas of distribution. The great industrial centers had become mighty vortices, whose suction drew in raw material of divers kinds and foodstuffs of all varieties from vast areas: to the draught of this suction the railroads had to adjust their rates if they would live. The level of the local tariffs of individual lines had been cut into by the pressure of these great traffic currents, the greatest pressure eroding the deepest channels; less powerful pressure cutting channels not so deep.

The varying conditions affecting the operation of the railroads in different parts of the country, the differences in the kind and volume of traffic, the different bases upon which local tariffs were originally established, the differences in the pressure to which they have subsequently been subjected, including the different degrees of stress with which State legislation has borne upon them, account for the wide variation in these local rates to-day. For example, the rate on merchandise of the first class per 100 pounds for fifty miles ranges from 12 cents to 32 cents in various districts between the Atlantic Ocean and the Missouri Valley, and is even higher over certain reaches of the Rocky Mountains and Pacific Coast territory, where, however, the costs of construction and expenses of operation are extraordinarily high and the density of traffic low.

It must be taken into consideration that local freight is usually in packages in less than carload lots; that to facilitate unloading, these packages must be placed in the cars, destination after destination, in the order that the stations are approached by the train; that even when there is volume sufficient to load a car to its capacity it is impracticable to do so because room must be left for the working of the freight handlers at each station, and that, consequently, as cars are practically never loaded to their full capacity in the local service, the trains seldom utilize the full tractive powers of their locomotives; that local freight trains stop at every station at which freight is discharged or received; that on perhaps the great majority of runs the load of a local freight train constantly diminishes from the starting point until near the end it is almost empty, while on the return it starts with a very light load which increases station by station until the terminal is reached. It is apparent, therefore, that the cost of the local service is several times greater than that of the running of a through train in which a large proportion of the traffic is in carloads, the weight of the train being limited only by the effective capacity of the locomotive, and, moreover, the through train seldom stops between terminals except when necessary to take fuel or water or go upon a siding to allow other trains to pass.

The various factors affecting the rates for traffic, and in other ways reacting upon the practices of the transportation agencies, have developed certain incidental but important relations to which some consideration must now be given.

CHAPTER XII

SECONDARY FREIGHT SERVICES

1a. SWITCHING

To switch is to move a car from one track to another. Its simplest phases are the shifting by switch engines of cars from the various tracks of a yard into definite arrangement on a train track, whence they are taken out to a main line track for road movement; the reverse switching of the cars of an incoming train to the various tracks of a yard, whence they are taken to the freight houses or other destinations, or made up into trains by shifting engines for further main line movement; and the switching of a car or cars from a track to a side-track at a way destination.

The transportation of less than carload shipments is usually from the freight house at the place of consignment to the freight house at the place of destination, the transportation charge being simply the amount specified in the tariff as covering this conveyance. Likewise, when a car is conveyed from the team track—*i.e.*, a track alongside which a team can be driven—of a railroad company, where it has been loaded by a shipper, to a team track at the place of destination, where it is unloaded by the consignee, the transportation charge is simply the amount named in the tariff as applying to the conveyance.

When a business enterprise has attained such magnitude that it is desirable that a track be built to connect its mill or mine, factory or warehouse with the railroad, another element is introduced. It is necessary that cars to be loaded at and shipped from, and to be received by and unloaded at the business establishment, be conveyed between the railroad track and that estab-

lishment by a transportation service distinct from the main line haul; this is included under the somewhat wide embracing term of switching. Such a sidetrack may have been constructed at the expense of the railroad company or at that of the business establishment, or at their joint expense, as conditions may have determined. If such a sidetrack, or spur track, as it is more correctly designated—leaving “sidetrack” to indicate a passing as distinguished from a main track of the railroad itself—be not more than a few hundred yards in length and be adjacent to the yard of a railroad company where switching engines are generally employed, the railroad company usually switches cars to and fro over the spur without extra charge. Even when such a spur track leads from the main line at a locality where the switching has to be performed by the regular locomotive of the train that brings cars to or takes them from the spur tracks, this special service is often performed without extra charge. The performance of such kinds of switching service without specific charge therefor is, however, more frequent in the industrial regions of the East than at places in the far West and South, where the traffic is not so dense and the proportion of cars and locomotives not so great.

At most junctions where freight cars are transferred from the tracks of one to those of another railroad company, the transfer is effected over a connecting track, which may belong to one or to the other or to both companies, the shifting being performed by the locomotive of one or the other company as part of the service called for by the through rate under which the traffic is moved, that is, if it be through traffic destined to a station beyond the place of transfer. If, however, a car filled with freight destined to a certain city, and taken by a railroad at the rate applying thereto, be consigned to an establishment located on the track of another than the railroad that brought it to that city, the latter railroad moves the car from the tracks of the company performing the road service to the establishment situated upon its line, and

usually charges the former road for this switching for which it obtains reimbursement from the shipper or consignee in addition to the rate paid for the road service. At a few places where each railroad performs such switching service for traffic brought to the city over another railroad, and such reciprocal switching service in the course of time is approximately equal, it is sometimes done by each road for the other without charge, the rate for the road service therefore applying to the establishment to which a car is consigned, whether it be on the track of the company performing the road service or not. In other instances the road on which an industrial establishment is located will make a separate charge for switching on shipments that come over a competing road from a point common to both lines, its natural desire being to induce the shipments to come over its own line for the entire distance. This policy is carried to the extreme in certain cities where roads that are strongly competitive refuse to perform any reciprocal switching service, each line taking cars from the other only upon the payment of full local rates.

At still other cities, especially the larger industrial and commercial centers, such as Chicago, where the tracks of many railroads converge from and radiate in all directions, it has been out of the question for any one company to have tracks connecting with those of all other companies. The most frequent solution of this problem is the construction, usually by a separate company, of a "belt" line, or a "connecting" railway extending generally a part of the way, or, perhaps, all the way around the city and linked by connecting tracks with the various railroads to and from each of which it is thus enabled to transfer cars. The charge for this kind of switching service, whether performed by one railroad for another, or by a belt line for other railroads, varies usually from \$2.00 to \$3.50 per car, according to the locality and the characteristics of the service, but sometimes is as high as \$6.00 and \$7.00 a car. In certain cases the extension of the switching service and the absorption of the switch-

ing charge by the railroads has tended to place in one city the aggregate of the terminal facilities of the different railroads at the service of a shipper without charge in excess of that for the road service. This applies to the switching of full carloads. A car is sometimes switched back and forth with less than carload shipments: this is designated as "trap car" or "ferry car" service and is the subject of a charge. Of recent years, however, the terminal facilities of many a railroad have often been inadequate for the needs of its own traffic, and the switching of cars for another railroad is regarded as a burden for which any ordinary switching charge is not reasonable compensation. The history of the belt and connecting lines does not indicate that, as a rule, their operation has been pecuniarily successful, and the tendency has been for them to pass into the ownership of the great railway systems which can utilize them to advantage.

The growth of certain of the larger cities has sometimes caused what was originally a belt road in the suburbs to become a line encircling what is comparatively a central portion of the manufacturing district. Industries have been located upon such a belt line between which there arises the need for transportation which its locomotives perform. This is not a switching but a complete transportation service, for which, at the beginning, when it was inconsiderable, the ordinary switching charge per car was applied. As its business increased and the inadequacy of the switching charge became apparent, such a belt line has sought to make its charge per ton carried, instead of per car moved, advancing, as one point, that the switching charge per car was established when freight cars were of small capacity, seldom exceeding 20 or 25 tons, and that such a charge is out of proportion to the capacity of the present cars, which ranges from 30 to 50 tons.

Analogous, in a way, to the switching service is that transportation by water necessary when a railroad's track ends on the shore of a river, an estuary, or other

waterway, on the opposite bank of which is the city that is the real commercial terminus. The two conspicuous examples are San Francisco, which is located on a peninsula projecting into San Francisco Bay, across which freight is conveyed from Oakland; and Manhattan Island, extending southward between the East and North Rivers. Vast numbers of loaded cars are floated on barges, that are fitted with tracks, across these rivers and to and fro in New York harbor between one railroad freight station and another. Into barges, known as lighters, freight is unloaded from cars at stations and "lightered," within the lighterage limits of New York harbor, to other stations, to the water front of manufacturing establishments, to the side of any vessel for whose cargo it may be destined. For many years this water delivery was the subject of a separate charge in addition to the freight rate, but for a long time freight received from or destined to points west of the Trunk Line termini is lightered as a part of the service called for by the regular rate to and from the city. In case of through shipments, the other lines allow the terminal railroad especial compensation for this service in the division of the through rate. Another conspicuous instance of transfer from rail to boat is that of coal, which is loaded directly from cars to vessels, both at the ports on the Atlantic and on the Lakes. The custom has grown up on the Atlantic to deliver the coal free on board (f. o. b.) vessel, the railroad undertaking to dump it from the car. On the Lakes a very large amount of the coal is dumped by dock companies who control piers and coal handling machinery, making a charge therefor, which the railroad companies add to their rates when their contract provides for the delivery of coal to the vessel.

At some places, notably across Lake Michigan, Lake Erie, and across some of the large rivers, railroads maintain regular car ferries as parts of their route, transporting entire trains on barges as part of the service called for by the regular rate.

b. PRIVATE INDUSTRIAL TRACKS

The operation of a business, especially of a mill or factory utilizing material that is large in bulk and heavy in weight, may so develop that it will need to build railroad tracks to carry material and products between its different plants. For example, a steel mill may so enlarge that furnaces, converters, rail mills, and structural mills may all be embraced in one vast enclosure wherein the transportation to and fro between the different buildings, of ore, coal, coke and limestone for the furnaces, ingots, blooms, billets, rails, bars, and other forms, by any other conveyance than a steam railroad would be out of the question. Many of such establishments include several miles of track and numerous cars and locomotives as part of their plant within the area occupied by various buildings. Such a plant is a large patron of the railroads, receiving every day many carloads of ore, fuel, and flux, and forwarding daily many carloads of finished material over its tracks which connect with the main lines of the adjacent railroad companies.

The service of the railroad companies designated as switching varies at different establishments of this and similar character, because of the stress of competition or because of peculiar local conditions. At one mill, for example, a railroad delivers cars to and takes cars from that point on the connecting tracks which is located on the boundary line between the right of way of the railroad and the land of the mill site. At another mill the railroad company switches the loaded cars to and takes loaded cars from tracks well within the interior of the mill. At still another, the railroad company switches cars of ore, fuel, and limestone to the places in the interior of the mill yard most convenient for their unloading, and takes cars of the finished product from those places in the mill yard where they have been loaded. That is, it "spots" cars for unloading and removes them when empty, "spots" empty cars for loading and

takes such cars, when loaded, from where they have been "spotted." At places this entire service is performed without other transportation charge than that made for the road haul under the ordinary tariffs.

At such an extensive industrial plant, however, that has its own interior tracks and its own locomotives for service upon such tracks, it is usually inconvenient and even hazardous for the locomotives of the railroad company to enter within the plant for service upon those tracks. At this kind of a plant it has, therefore, frequently been arranged that its locomotives take cars from and deliver cars to the tracks of the railroad company. Because of its enormous receipts and shipments of freight, which can generally be made over one or more competing railroad lines, such an industrial establishment has often compelled the railroad companies to pay to it, in consideration of its performance of the switching service, an amount much in excess of what it would cost the railroad company to perform that service. When the tracks of the industrial establishment have extended over considerable distances, connecting widely separated plants, as well as reaching to the tracks of a railroad company, the allowance to the industry has sometimes been a proportion of the regular transportation charge. That is, the tracks of the industrial establishment, for which a separate and usually merely titular corporation has obtained a charter, have been considered as those of a separate railroad company, and the transportation charge as a through rate of which a proportion should accrue to it. Such a proportion of the transportation charge, at different times and in different places, has been made to manufacturing concerns of various kinds, to mining, and to lumber companies that have built tracks over which their own locomotives have performed switching service to and from the main tracks of a railroad. This practice has been bitterly and justly condemned as one form of giving rebates. The industrial establishment owning tracks and locomotives for its own convenience has un-

doubtedly, through such payments, obtained an advantage over competing plants not so equipped. It has been held under the English law that the public and lawful rate of a railroad company covers service rendered on its own tracks by its own instrumentalities. In its decisions in the cases brought by the General Electric Company and the Solvay Process Company the Interstate Commerce Commission has held that a railroad company is under no pecuniary obligation to an industrial plant for the performance by that plant with its own equipment of interior switching service.

C. TAP LINES

Of the same nature as the interior tracks of the great industrial plants are the "tap lines" owned by the lumber companies, of which there are a great many in the timber districts, connecting the places where timber is being cut with the tracks of the railroad over which it is conveyed toward the markets. Unlike the industrial tracks which form a network over the comparatively small area occupied by an industrial plant, a tap line may extend for a dozen or a score or more of miles from the railroad into the forest. It may be a common carrier to the extent of carrying the lumbermen back and forth, and supplies for their use to the logging district, but in all cases the function of the tap lines is primarily and overwhelmingly that for which they were constructed by the lumber companies. Especial allowance for switching or proportions of the through rate have been allowed these tap lines just as such allowances have been made to industrial companies, and with the same effect of practically paying a rebate by which the lumber companies owning tap lines benefit to the disadvantage of lumber companies that do not. The question is before the Interstate Commerce Commission at this writing with every probability that its decision will be similar to that in the Solvay Process Company and General Electric Company cases.

2. ELEVATION AND WAREHOUSING

To conserve their traffic railroad companies have often arranged for the unloading of inbound merchandise and its storage until the time of outbound shipment. The earliest exemplification of this practice was doubtless afforded by the elevators erected for the storage of grain received from the western fields. Grain shipped into a primary market from the farms had previously been held in cars so long that it was more economical to erect elevators to serve for storage, especially as in those days the railroads were not willing that their cars should go beyond their respective lines with through grain shipments. The railroad companies at first operated the elevators through agents in their employ, the elevation charge being an expense incident to the movement of the grain crop. The next development was the leasing of the elevators and the payment of the cost of elevation to the lessee. This was upheld by the Interstate Commerce Commission as a legitimate arrangement, it being considered lawful for a railroad company to pay another for doing what otherwise it would have to do itself at the same expense. With the development of the processes of grain handling the lessee of an elevator obtained an advantage in dealing in grain not possessed by a dealer not having such facility, in that he was enabled to conduct the mixing, treating, weighing and inspecting through which the value of grain is enhanced. The allowance for elevation, therefore, became less and less customary, and was finally declared illegal by an order of the Commission. The order was contested by interests beneficiary of the elevation charge and the case taken to the Supreme Court of the United States. The Commission deferred the taking effect of its decree to July 1st, 1909, in the hope that the Court will have rendered a decision by that time.

The storage performed for grain by an elevator is rendered in the South for cotton by warehouses, in some cases erected and maintained by the railroads; and for

tobacco in other warehouses, also in some instances erected and maintained by the railroads.

A dockage or warehouse charge is customary on carload or less than carload freight unloaded on docks, or in warehouses belonging to a railroad company, if it is not taken away within a specified time.

3. SPECIAL EQUIPMENT CARS

This is the designation now generally applied by the railroads to what are ordinarily and not so appropriately known as private freight cars. It was at first the custom, even to a greater degree in England than in this country, that the cars in general use on a railroad be owned by the shippers. The demonstrated inconvenience of this arrangement led to the ownership in nearly all cases passing to the railroad companies.

Until well after the Civil War the freight equipment used by the railroads consisted principally of box cars and open flat cars, and some slatted cars, comparatively few in number, owned by the companies especially engaged in the livestock traffic. The railroads resisted investment in cars of special design because they did not care to spend money for contrivances in the experimental stage, because they would not have continuous use for such cars that could not, like the ordinary box and flat cars, be loaded with one commodity or another at any time of the year, and there was strong resistance to the refrigerator cars designed for the carriage of dressed meat, because neither the livestock shippers nor the railroads desired that the traffic in livestock diminish, and the livestock cars thus fall into disuse.

The development of freight cars especially suitable for particular commodities was, therefore, conducted by individuals, and their subsequent ownership rested chiefly with private car companies instead of the railroad, this being in a measure a reversion to the early practice.

Refrigerator cars, particularly adapted to the conveyance of perishable foodstuffs, were devised after long

experiment. They became a factor to be reckoned with in the transportation of dressed beef about 1876, and in that of fruits and vegetables during the following decade. As their most extensive use was for the carriage of dressed meats, the great packing companies came into the ownership of the greatest number of refrigerator cars, and, therefore, were better equipped than any other agencies for the conveyance not only of packing house products, but of dairy products, and fruits and vegetables as well. The packing house company owning the largest number of these cars, through its control of tremendous traffic in livestock and the products thereof, was enabled to induce many railroad companies to make contracts providing that its refrigerator cars should be used exclusively in the fruit and vegetable traffic of those companies. The refrigerator car company assumed the duty of providing ice for such commodities as needed to be transported under refrigeration, and assessed the shippers with a charge for icing that was in addition to the rate for transportation. The undoubtedly excessive nature of the charges made for this service from some localities brought forth complaint that led to the requirement by Federal legislation that such charges be definitely published in connection with the rates for transportation, and that they be under the jurisdiction of the Interstate Commerce Commission. This has done away with serious complaints on the part of the shippers against the refrigerator car companies, whose service, administered through a most competent organization, is admittedly excellent.

Such shipments of livestock as are now made are principally from the western grazing and fattening grounds to the packing houses, and are in the ordinary livestock cars owned by the railroad companies. There are other "palace livestock cars," owned by private car companies, which contain racks and troughs from which stock can be fed and watered while on the trains, and movable partitions which can be so adjusted that the animals may have separate compartments. There are

similar cars of still more elaborate construction used for the carriage of race horses and other valuable animals.

About the year 1885, cars with large cylindrical iron tanks came into use for the conveyance of oil, which had previously been shipped in cars with wooden tanks, and before that in ordinary box cars in barrels that often leaked and were liable to cause fire. It is obvious that only the largest oil companies can afford to own a considerable number of tank cars.

Cars of designs peculiarly suitable for the transportation of furniture and certain other commodities have also been constructed, and are owned either by private car companies or, more pronouncedly in recent years, by the railroad companies themselves.

Large numbers of cars are also owned by many of the numerous coal mining companies. These are not, however, as a rule, materially different from those owned by the railroad companies and used for the same purpose. The object of a coal mining company in owning private cars is to assure itself of an adequate supply at times of great commercial activity when the pressure upon the railroad companies for cars is so strong that the coal companies would not be regularly supplied from ordinary sources with the number sufficient for each day's operations. In the older parts of the United States, when the railroad companies came generally into the possession of the freight cars that had theretofore been owned by the shippers, coal cars were frequently an exception. One of the coal companies in Pennsylvania, for example, has utilized its own cars for fifty years. On some of the English railroads the coal cars are owned exclusively by the coal companies; on others partly by the railroad and partly by the coal companies.

When there was a certain reversion to the ownership of cars by shippers, that is, when special equipment cars owned by private car companies were first introduced, it was considered advantageous on the part of the private car companies to have their cars hauled by the railroads, and it would seem that in at least a few instances

the railroads charged for hauling them. It is positive that dressed beef was carried at 5 cents per 100 pounds less from Chicago to New York in railroad cars than in private cars and that the railroads charged \$25 per tank for carrying empty tank cars back from the Missouri to the Mississippi River. In order to secure some of the oil traffic, a new railroad between Chicago and the Missouri River offered to pay three-fourths of a cent a mile on all tanks whether empty or loaded. This forced the competing railroads to make the same arrangement. The railroads at first declined to allow mileage on private livestock cars, but their owners circumvented the refusal by leasing the cars to the packers, who were permitted three-fourths of a cent per mile on the cars, empty or loaded, and this payment became general. After payment by mileage was introduced it was allowed to owners of refrigerator cars only on the mileage made by such cars while loaded. The competition between the railroads for the enormous traffic of the packing houses, however, led them to offer mileage on the refrigerator cars whether empty or loaded. It also became customary for the railroads to grant to the owners of other private freight cars the same mileage as given by one railroad company to another for the use of its cars, a payment that has ranged as high as one cent per car per mile. It was 6 mills per car per mile when a charge of so much per day was substituted. This has fluctuated between 20 cents and 75 cents for each car of a company while on the rails of another. At this writing it is 25 cents, but will probably be increased.

The railroads hold that the mileage of three-fourths of a cent now paid for refrigerator cars is excessive because of the especial attention and accelerated movement demanded when they are under load of refrigerated shipments, and because, as a rule, they cannot be loaded for return. It is otherwise with livestock cars and coal cars, upon which the mileage is six mills.

The excessive mileage paid to the private car companies is undoubtedly a severe drain upon the railroads,

which, it has been suggested, can be prevented by the purchase of the various private cars by a special equipment company owned and controlled by the railroads. There does not seem to have ever been any serious complaint from shippers as to the service rendered by the private car companies, and such abuses as have arisen out of the exactions these companies have made upon the shippers seem to have been ended by the enactment of the Hepburn law. There can be no doubt that the special equipment cars, on the whole, have been of invaluable service in the development of the industry and the commerce of the country.

CHAPTER XIII

INCIDENTAL DEVELOPMENTS OF THE FREIGHT SERVICE

(I) THE BILL OF LADING

WHEN a shipper entrusts merchandise to the care of a railroad company it goes without saying that he is entitled to a certificate that it has been received by that company for transportation as specified. This document at first was very crude, oftentimes little, if any, more than a blank receipt. Before the railroads were authorized to form continuous through lines, a shipment that was offered for transportation over two or more lines was merely turned over to one railroad after the other, the road receiving the shipment from another paying the freight charges to the point where received, and adding them to its own charges for collection.

When freight was lost, stolen, burned, or in one way or another damaged in transit, dispute often arose between a railroad company and a patron as to who should bear the loss. The railroads formulated stipulations exempting themselves from liability from loss because of leakage, or the bursting of barrels, the breaking of brittle ware, the waste of grain, and other deterioration. These and other provisions at first were printed on tariffs and later on the bill of lading, which each railroad company drafted for itself. These bills of lading differed according to local conditions and to the legislative enactment in different States.

With the introduction of through billing came a tendency to homogeneity in the various bills of lading, and a uniform bill of lading applicable to shipments in the Trunk Line Territory was adopted by the Trunk Line Association in 1890; or, rather, two bills of lading were adopted. In addition to the exemptions from lia-

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bility by the carrier specified by the common law, the "Ordinary Form of Uniform Bill of Lading" contained certain stipulations as to further exemption; the other, a "Form of Uniform Bill of Lading at Carriers' Liability," provided that the carriers assume all liability limited only by the common law, which frees the carrier in case of loss arising from any of the following causes: first, Act of God or the public enemy; second, inherent defect, quality or vice of the thing carried; third, seizure under legal process; fourth, any act or omission of the owner of the goods.

Under the contract made by the ordinary bill of lading the transportation charge was that specified in the tariffs of general use. Under the bill of lading at carriers' liability the transportation charge was 20 per cent. in excess of the regular tariff, this premium being fixed by the railroads as compensation for their insurance against fire and the other hazards for which it makes them responsible. This form, however, was seldom or never used. In 1904, at the instance of certain manufacturers' and merchants' associations, the matter of a uniform bill of lading was taken up before the Interstate Commerce Commission, which instituted a series of hearings and negotiations lasting over three years. The shippers contended for the greatest and the carriers for the least degree of liability under the ordinary bill of lading, covering transportation at the ordinary and regular rate. An especial brand of discord was the misapprehension of many shippers that the 20 per cent. premium for transportation under liability, unrestricted save by the common law, was a blind, under the cover of which all rates were to be advanced to that extent.

Because of the conflict between the laws of different States, discussion was also acute as to the proper wording of the stipulation that would render the bill of lading acceptable to bankers as a collateral for loans.

The result of the three years' debate was the agreement between the representatives of the railroads and those of the shippers upon a bill of lading that, with the

sanction of the Interstate Commerce Commission, was placed in use in different parts of the country at dates varying from September 1st, 1908, to February 1st, 1909. This document clearly recognizes that the carriers cannot even by contract—although separate States have enacted otherwise—relieve themselves of the liability for loss or damage caused by their own negligence. It exempts the carriers, however, from liability from certain other causes. This is the bill of lading used for ordinary shipments at the regular rates of freight. There remains the bill of lading under which the carrier assumes all liability, save that from which it is exempted by the common law: of this the shipper may avail upon payment of 10 per cent. advance upon the customary tariff. Either form of bill, provided it is made to the order of the shipper or the consignee, is acceptable as collateral, and, as a matter of fact, bills of lading constitute a very large proportion of the commercial paper upon which the banks make loans.*

Viewed in this respect, the bill of lading is an instrument for facilitating commerce, the importance of which is not generally known. It is not only a certificate that merchandise is in transit, but a first lien upon that merchandise, in a way a title to ownership, and, as fulfilling this function, negotiable. For example, a grain dealer buying a carload of wheat at the western field may, and in the vast majority of cases does, deposit the bill of lading covering that car in a bank as security for a loan to its value. If that car goes through to a port where it is sold for export the loan may not be paid and the bill of lading lifted until the grain is transferred from the car to the vessel. There is a similar procedure in the case of other commodities, with bills of lading covering raw material to the factory, and finished product from the factory. The bill of lading thus contributes to that fluidity of the circulating medium, that celerity in the transfer of merchandise, which are striking achievements and essential requirements of current civilization.

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(2) DEMURRAGE

It was for many years not an unusual, if in reality it was not the usual, custom of a shipper to hold a freight car as long as he pleased before loading it, and of a consignee to hold it as long as he wished before unloading it. Indeed, it was a recognized practice of many large manufacturing establishments to hold their fuel in the coal cars until it was emptied into the furnaces, the coal thereby requiring less handling than if it were transferred from the car into storage bins and thence taken to the furnaces. These establishments, however, would advance, and often with much truth, a counterclaim that the deliveries to them by the railroads were so irregular that while meager supplies were brought at one time, an oversupply was brought at another, for which they could not be expected to have storage capacity. As early as 1874 certain railroads began to establish a demurrage charge, which became general about 1888, designed to afford a stimulus to the prompt loading and unloading of cars by shippers. This demurrage charge is a rental of so much per car per day charged by a railroad company for the detention of a car longer than a limited period, usually from two to four days, but sometimes longer to meet peculiar conditions. Demurrage is sometimes averaged by allowing the consignee credit for each day under the limit after which demurrage accrues. For example, if the free time be two days and a car is unloaded and liberated in one, credit is allowed for one day: this will offset the demurrage in case of another car not liberated until the third day. The demurrage charges and practices are now prescribed in eighteen of the States by their respective legislatures or railroad commissions. Several of the States have established "reciprocal demurrage," under which a penalty of a specified amount per day is exacted from a railroad company for not supplying cars to a shipper in accordance with his orders, under certain allowances. The railroads point out that this is not

"reciprocal demurrage," inasmuch as a rental for a car detained by a shipper and used as a warehouse is different from a fine for not providing that which under conditions of sudden and extraordinary traffic pressure even a well equipped railroad company may be unable to supply. These reciprocal demurrage charges are, however, usually inoperative, because the law often requires that shippers deposit a cash guarantee at the time cars are ordered. This they are seldom or never willing to do. Moreover, a State cannot apply reciprocal demurrage except in intrastate traffic, which ordinarily constitutes but a small portion of the shipments of a large establishment. In many of the countries of Europe the free time is but twenty-four hours, the demurrage charge being augmented for each day thereafter.

A track storage charge is a rental for the use of the track in addition to the demurrage charged for detention of a car after a specified time. It is usually assessed for use of tracks in large cities that occupy valuable real estate.

(3) RECONSIGNMENT

When a shipment is delivered to a railroad company and directed to a specified consignee at a specified place, it is the natural assumption that it is to be forwarded with due despatch and promptly delivered to the consignee at the place of destination. Contingencies may arise, however, leading the shipper to desire a change, both of consignee and destination. The earliest cases of this kind were those in which a consignee may have been found unworthy of credit, or may have failed after a shipment had been forwarded. In either case the shipper would countermand delivery and perhaps desire that the shipment be forwarded to another consignee at another destination. As an accommodation the railroad company often, in such an instance, instead of exacting the full rate from the place of shipment to the first destination, and the full rate from the first to the second destination, has charged the through rate applicable via

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the first to the second destination, or even, in some cases, the through rate applying direct from the place of shipment to the final destination. In various analogous instances when there has been a misunderstanding between the shipper and the consignee; or the consignee, for one reason or another, may have refused to receive a shipment, it has been sent to another destination under similar accommodation. In such cases a small charge may or may not have been made as compensation for the clerical work and additional handling made necessary by the reconsignment.

It often happens that the sale of commodities of various kinds has been negotiated through brokers who do not desire the purchaser to be known to the sources whence the commodities have been obtained, nor the producer to become known to the purchaser, for fear that negotiations would thereafter be conducted direct and the broker eliminated. Shipments so negotiated are often consigned by the broker to the order of himself, or a colleague at some intermediate point, and thence reconsigned to the ultimate destination, the first bill of lading not indicating the purchaser nor the second bill of lading the producer. For reconsignment under such conditions a small charge is usually made per car.

Perishable foodstuffs, particularly fruits and vegetables, are often diverted en route from one destination to another as the representatives of the grower find that the needs at one market are in excess of those at another. This diversion, however, is hardly to be classed as reconsignment. It is a concession extended by the railroads to facilitate the marketing of such products.

Certain railroads have allowed the dealers in another class of commodities, such as hay, grain and grain products, who have not storage facilities, to consign shipments to the railroad yards while awaiting orders for their disposition. In the case of hay and grain thus consigned to the great yard at Altoona, the destinations of about fifty-two per cent. are furnished to the railroad company before the shipments reach the yard. To stimu-

late this practice a charge is made for shifting in the yard and a storage charge of \$2 per day for detention; this is fairly typical of the charge made at similar yards for like service. When this storage awaiting consignment is availed of, it means that the cars of the railroad companies are used as warehouses, and sometimes thousands of cars are tied up in this manner, with the result, especially in times of heavy traffic, that the country is deprived of cars which should be in movement, and the railroad tracks are clogged with the cars so used when they should be open for the expediting of transportation. Lumber is another commodity in connection with which the reconsignment privilege is frequently availed of. A car loaded with lumber may be held in a terminal yard and thence forwarded to a market upon payment of a fee per day for detention. At Buffalo the reconsignment privilege is very serviceable, especially on flour brought down the Lakes

In all cases the reconsignment privilege means that the commodity pays the through rate from the original point of shipment through the place of reconsignment to the final destination, provided it be beyond the place of reconsignment. As the through rate for nearly all hauls of considerable length is less than the sum of the rates for the separate links forming the through haul, this privilege is a material concession. It is especially beneficial to the shipper where the place of reconsignment is intermediate on the longer line between the place of supply and the place of destination, as he is in such a case being placed on a parity with a competitor at a station on the short and direct route on which the sum of the intermediate rates is more likely to make an aggregate not exceeding the through rate. The reconsignment privilege also permits the dealer in grain who has not an elevator under his control, or the dealer in another commodity for which he likewise has no warehouse, to compete with shippers who have such storage conveniences, inasmuch as it enables them to use the cars of the railroads for storage purposes.

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It only remains to add that, through the stress of competition and the pressure of shippers, the reconsignment privilege has been extended from one commodity to another, until it is applicable upon nearly all merchandise that moves in carloads. It is sometimes utilized by dealers in coal and other staple commodities to send carloads from one place to another in search of a market, the reconsignment charge not compensating the railroads for the use of their cars for storage. In other ways the concession has been much abused and, conducted as at this time, unduly restricts the serviceability of the freight car equipment and therefore calls for better adjustment.

(4) MILLING IN TRANSIT

Another practice that is of much benefit to intermediate localities on a long line that are in competition with localities on a rival short line, or are in competition with an initial point shipping to a market at an extreme point on the line on which they are intermediate, is known as milling in transit.

This is the privilege of transforming raw material into a manufactured product at some point en route, and forwarding this product to market on the rate applicable from the original place of shipment of the raw material to that market of the product. That is, although the raw material has been unloaded at an intermediate point, there transformed and the product loaded and forwarded to final destination, the through rate is applied from point of origin of the raw material to destination of the product.

It is evident, for example, that a miller located adjacent to wheat fields at A, and having a through rate on flour to a remote market at C, would have an advantage over a miller at an intermediate point B, if the latter has to bring wheat from the fields adjacent to A at the local rate to his mill at B and pay therefrom the local rate on flour to the market at C.

Before the lands to the west of Chicago became the

great grain-growing region, flouring mills had risen at numerous points in the Eastern and Central States, each of which obtained wheat principally from the near-by farms, and sold flour throughout a more or less extended area. As the western farming land was developed and mills were built near the fields, these mills could ship flour on through rates—that were forced to a low level by the competition of the waterways, and the needs of the export traffic—to the markets throughout the Central and Eastern States. At that time the rates on wheat the flour were identical, and, although some exceptions have arisen, they are, generally speaking, still substantially the same. The flouring mills in the Eastern and Central States found the area of their markets diminishing, and at times when, owing to crop failures in their immediate vicinity, they could not get wheat except from a distance, they found that they were being driven out of business. For their benefit milling in transit was extended until it is now a concession granted generally by the railroads to millers in all parts of the country, from Oregon to New England and from Minnesota to Georgia. By protecting the millers on its lines this privilege retains traffic to the rails of a company that might otherwise go over the lines of a competitor, especially if the flour comes from mills at a distant point. The practice, by promoting the milling on the line of a railroad, also tends to keep that business near the wheat fields on or tributary to its line. Cars loaded with grain from these fields, therefore, have a short haul to the place where they are unloaded, a great desideratum during the crop movement when there is a heavy demand for cars. In so far as information has been obtainable, the practice had its origin in the early years of the decade beginning with 1870.

Its development in Minnesota and the adjoining States to the west was under peculiar conditions. As soon as wheat was grown in southern Minnesota and northern Iowa in sufficient quantities to leave a surplus above the needs of the residents, this surplus found its way to the

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Mississippi River at Hastings, Red Wing, Wabash, Winona, LaCrosse and other towns, for storage and subsequent forwarding to market via the Mississippi River. The accumulation of this surplus wheat at the Mississippi River led to the establishment at these points of flour mills, which disposed of their surplus product in various markets to the East, where it was sold in competition with flour produced at mills in Milwaukee, which drew their supply of wheat from practically the same territory.

The water power at Minneapolis induced the establishment of flouring mills in that city, which were obliged to compete, both with the more southerly mills along the Mississippi River and with Milwaukee in the purchase of wheat. Increase in the capacity of the mills at Minneapolis was coincident with the building of railroads from that point farther into the West. With this growth of the Minneapolis mills, it became more and more difficult for them to secure an adequate supply of wheat to enable them to continue in operation throughout the entire year, and they gradually encroached into the territory that was the source of supply of wheat for the Mississippi River and Milwaukee mills, railroads having been constructed west of the various river towns mentioned. Competition between Minneapolis and Milwaukee for this wheat became so intense that at times the same price was paid in both cities. This rivalry between markets was naturally reflected in rivalry which increased between the railroads that reached from the southwestern Minnesota and Dakota wheat fields through Minneapolis to Milwaukee, and the lines extending directly to Milwaukee; and the high prices paid at Minneapolis for wheat drew so large a proportion from the territory previously tributary to the Mississippi River mills that the latter were no longer able to secure an adequate supply from the fields direct, but were obliged to resort to Minneapolis. In order to protect the Mississippi River mills and enable them to secure a sufficient supply of wheat for their continuous operation,

as well as to make it possible for the originating lines to retain control of the wheat for the long haul beyond the milling point to or toward the market of the flour, the milling in transit privilege was established. This privilege, after its establishment at Mississippi River mills, was subsequently extended to Minneapolis by the lines to the west and north of that city to enable its mills in turn to secure a sufficient supply of wheat to compete with the mills at Hastings, Red Wing, and the similarly situated towns on the river.

There was great competition between the millers of Minneapolis, which led to their forming an association for the purchase of wheat, thereby lessening the rivalry between the Minneapolis mills for their supply. It was then quickly ascertained that the severity of the competition was due very largely to the fact that the wheat regions then developed did not produce grain enough to satisfy the needs of both Minneapolis and the ports on Lake Michigan, of which Milwaukee was the most important. This condition was overcome as wheat fields were further developed to the north and west of Minneapolis and railroads were extended into them.

The building of lines from the northern wheat fields to Duluth and from Minneapolis to Duluth, and the consequent advent of that city as a factor in the movement of wheat via the Lakes to the East, and the resultant building up of Buffalo as a milling center, further complicated the situation. The rates to Duluth and other Lake Superior ports from a large area of the wheat growing regions were established at $2\frac{1}{2}$ cents per 100 pounds less than the rates to the Lake Michigan ports. This differential was the result of the contention by the lines operating through the Duluth gateway that inferior lake service, and excessive marine insurance rates owing to extra-hazardous navigation, made their route unattractive to shippers on an even basis of rates with the routes via the Lake Michigan ports. The difference was accorded the route through Duluth by the addition of a milling in transit charge of $2\frac{1}{2}$ cents per cwt. on

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shipments milled and forwarded through Lake Michigan ports. The milling in transit charge thus established continued in existence until a considerably later period, when the rates from Minneapolis to the Atlantic seaboard were arbitrarily fixed at five cents over the rates from Duluth. The rate from Minneapolis being seven and one-half cents over the rate from Lake Michigan ports to the seaboard, it then became necessary, in order to maintain the Duluth differential at $2\frac{1}{2}$ cents per cwt., to eliminate the milling in transit charge, which previously applied on shipments milled in transit at Minneapolis and forwarded east through Lake Michigan ports. The milling in transit charge was still continued at interior and Mississippi River milling points, placing them at a disadvantage in comparison with Minneapolis under which they labored until very recently.

Under milling in transit as originally established at Minneapolis, it was estimated that a given quantity of wheat produced only 72 per cent. of flour, and the transit privilege was accorded upon that alone. As the practice developed, mills were permitted to consign as "transit" the total weight of products derived from the wheat received, it being permissible to include bran and other by-products, which, in connection with the flour, aggregate very nearly the same weight as the wheat from which they are made.

The mechanism of the arrangement includes the payment at the shipping or milling point of the through rate on the wheat from the place of purchase to the final market, and the issue of receipts to the miller at the place of transformation, which are later accepted by the railroad as vouchers covering the shipment of product of an equal weight or approximately an equal weight therefrom.

Before the harmonious adjustment of rates from Minneapolis via the various routes to the East, the milling in transit certificates were a source of harassment to the railroads. These certificates were bought and sold on the Board of Trade, and because of the accumulation

of grain at times at Minneapolis, and the fluctuation of rates, the railroads leading from that city often found that they were carrying flour and grain products under the transit privilege for utterly inadequate compensation. This condition finally resulted in the abolition, by mutual consent of the millers and the railroads, of the milling in transit privilege at Minneapolis.

The milling in transit privilege, developed largely in aid of the milling industry in the Northwest, has, in its extension throughout the interior and Eastern States, been designed in large part to protect the millers of those regions against the competition of the Minneapolis mills, which have extended their market through the country. Even with this concession, however, the flour mills of New England have not been able to persist in competition with those of the Northwest, but one remaining in the States to the north of Massachusetts. Mills that grind corn into meal and oats into meal still exist there, being able to continue in operation partly because of the water power, but largely because the machinery and processes for grinding these grains are not nearly so highly developed as those for grinding wheat.

This milling in transit, like the reconsignment privilege, through the stress of competition and the pressure of shippers, has been extended to the manufacture of various other commodities, especially of corn into corn meal, of oats, oil cake, cottonseed, and in some cases of lumber. The privilege is seldom or never applied to liquid products. That is, for example, while of the products of linseed it applies to oil-cake, it does not to linseed oil.

(5) CARLOAD AND LESS THAN CARLOAD RATES

The distinction between rates by the hundred pounds for carload, and rates by the hundred pounds for less than carload shipments, has acquired an economic significance unforeseen when the discrimination was first made between shipments loaded and unloaded in car-

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load quantities by the shipper and consignee, and those loaded and unloaded in less than carload lots by employees of the railroad.

Meanwhile the rates on livestock and on lumber, which long continued to be based upon the carload as a unit, had also changed to the basis of the hundredweight as the unit. This came about through the enlargement of the freight car. A generation ago the standard car was 24 feet long, and a full load was always of about the same number of cattle or other livestock, the rate per carload applying. The length of the car was increased by one road and then by another, each enlargement permitting the accommodation of a few more animals. The old-time rate per car, however, still applied, the larger car thereby being used as an instrument to cut the rate, inasmuch as it offered the shipper more for his money. The railroads tried to equalize the rates by establishing different rates for cars of various sizes, but the variety of cars so increased that after much friction the rate on cattle was made so many cents per 100 pounds, with a certain minimum weight for each size of car. The change of custom in the case of lumber was along similar lines. The recognized weight of the load of the early car was 20,000 pounds. As cars were increased in size it was found that in the struggle for traffic, competing lines would often load as much as 30,000 pounds without advancing the rate. In the endeavor to stop this practice, which was equivalent to a cut in the rate, a rule was made that an agent who loaded more than 20,000 pounds in a car should be discharged, and weighers were appointed to enforce the rule. This was an expensive procedure, even under the restrictions not difficult of evasion, and it prevented the full loading of cars of large capacity. Finally it was suggested that lumber be charged for per 100 pounds, as were nearly all other commodities. Each of the railroads said that it would be glad to establish this custom if the others would do so; but in that era of suspicion there was hesitation. Ultimately a few of the roads put the ar-

rangement into effect. It resulted in such immediate satisfaction that within a short time practically every freight rate for carload shipments of every commodity was based upon 100 pounds or the ton as a unit. Even at this time, however, remain a few exceptions, in remote localities or under unusual conditions. For example, in some parts of the Pacific Coast the unit of charge for livestock is the carload; from some parts of the northeastern forests to the paper mills the unit of transportation charge on lumber is the cord.

As the hundredweight was thus becoming the universal unit for the freight charge, the difference between the carload and less than carload rate was arousing contention between the established distributing centers and the smaller towns aspiring to that rank. The difference of but a few cents per 100 pounds on such staple commodities as sugar, flour, bacon, nails, common furniture, can readily enough make the difference between a retail and wholesale business. That is, for example, if this difference, or "spread," as it is termed in commercial parlance, be 10 cents per 100 pounds on flour in sacks, the difference on a carload of 30,000 pounds, or six hundred 50 pound sacks, would be \$30, which of itself might give adequate profit in case of quick sales to a wholesale grocer doing a fair general business. The purchase of many kinds of goods by the carload, moreover, would enable him to obtain lower prices than the purchase of smaller lots. The carload rate is, therefore, often a substantial aid in the building up of a wholesale and even sometimes of a retail business. It is but natural that the wholesale dealers of a large city should not desire that their business be broken into by a number of wholesale dealers in various towns and cities within the area which they have come to consider as their normal market. The retail dealers of such large cities, who send catalogues of their wares to consumers through an extensive area, are likewise opposed to such an increase in the "spread," as will attract their customers to local merchants. The strug-

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gle on the part of the large cities to diminish the "spread" and on the part of the small towns to increase the "spread," has often placed the railroads between the upper and the nether millstone. Such a struggle was once the source of bitter contention between Chicago and St. Louis on one side and San Francisco and other Pacific Coast ports on the other, the former wanting a narrow and the latter a wide spread to serve their respective desires to distribute to the retail merchants of the western interior.

The resultant of the two forces has been an augmentation in the number of carload ratings. Sometimes the distinction has been made by placing carload lots in a different class than the less than carload lots. For example, in the Western classification nails in carloads are in the fifth class, while in less than carloads they are in the fourth class. The pressure of the interior centers for carload rates has led in some parts of the country to the grouping of different kinds of merchandise of the same nature in a car under the carload rate. This practice, however, has been generally resisted by the railroads, who have endeavored to insist that the carload rate be granted only on merchandise of the same nature shipped from one consignor to one consignee. This insistence, in turn, has in many cities been largely evaded by the organization of shipping companies through whose warehouses merchandise for the same destination is assembled from several consignors. To such a warehouse may likewise be consigned a carload of freight intended for several consignees, to whom it is distributed by the warehouse company. The practices of these forwarding companies, export companies, receiving companies, as they are variously designated, although upheld by the Interstate Commerce Commission, has been overruled by the courts.

The constant tendency furthered by the carload ratings is toward the decentralization of distribution, especially of the staple commodities. This is promoted by the fact that a railroad extending to a point in the same terri-

tory as a jobbing center of another railroad usually gives that point the benefit of the same rate for jobbing purposes as is granted by the other railroad to its jobbing center. It thereby secures to its rails a portion of the traffic that is distributed to consumers in the area throughout which the two jobbing centers compete. This has particularly tended to build up distributing centers in the region to the west of the Mississippi River, the rates, for instance, being the same from Chicago to Sheldon and Sioux City, which are on different roads penetrating the same region.

In order that such interior centers may have command of the distribution to retail dealers at the towns in their vicinity, they bring pressure upon the railroads to make the carload rate to a jobbing center, plus the less than carload rate therefrom to an adjoining town, no higher than the less than carload rate from the place where the jobber purchases to that adjoining town. This is another phase of the contention that is everlastingly being raised at every interior town whose merchants desire to extend their business beyond retail limitations, and because of which the railroads are in an everlasting quandary between the opposing onslaughts of the established commercial centers and the towns that are struggling to become distributing centers. It cannot but be realized that the undue multiplication of such centers restricts the area of distribution of each. That growth of population, however, which makes a town the nucleus of a district which quickly consumes a carload of any of the merchandise of daily and general use invariably causes the merchants of that town to purchase such merchandise by the carload and to endeavor to dispose of it in an extended area. This decentralization of distribution, particularly of the staple foodstuffs, is one of the conspicuous current economic phenomena of the United States. It relieves the large cities in great measure of the rehandling and reconsigning of the heavier staple merchandise; it enables jobbers of groceries and kindred commodities to exist at interior centers one or two hun-

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dred miles apart and, therefore, relieves the retail dealer in that radius of keeping as large a stock as formerly, his orders made by telegraph, if necessary, being filled by the jobber over night. The retailers with limited capital are, therefore, enabled to keep a varied stock of fresh and up-to-date merchandise. The consumer having the range of such a stock on the counters in front of him is apt to buy more than if he awaited exhaustion of his home supplies and calculated definitely as to their replenishment. That is, the decentralization of distribution of the staple commodities of daily need tends to increase the purchasing power of communities and, therefore, to build up a population that the great cities, such as Boston, New York, Chicago, and St. Louis, supply direct with the higher grades of merchandise and manufactured specialties.

Another effect of the "spread" between the carload and the less-than-carload rate has been the building up every here and there of a chain of retail stores under the same ownership, each in one of a dozen or more towns in the same general district. Such chains of stores exist in New England, in central Pennsylvania, and in other comparatively well populated sections. Because of their aggregate sales, the proprietors of such a chain can purchase merchandise direct from the factories at low prices; they can consign it at carload rates to their store in one town, whence portions can be reconsigned to the stores in the other towns, a continual flow of fresh merchandise thus being kept in circulation throughout the entire chain.

CHAPTER XIV

THE FREIGHT TRAFFIC DEPARTMENT OF RAILROAD ADMINISTRATION

IN the earlier days of the short local railroads the superintendent usually had charge of matters pertaining to the shipment of freight as well as of other phases of operation. The tariffs were issued over his signature, as well as instructions to agents in regard to the handling of freight. With the extension of the railroads and the beginnings of competition came the instalment of an officer upon whom these duties particularly devolved, as well as that of endeavoring to secure traffic for his line in competition with its rivals. As this officer directed the station agents in the performance of their duties in connection with the freight traffic, it became customary for him to be designated as the general freight agent.

The enactment of Congress in 1866 authorizing the through billing of freight and the association of railroads in the formation of continuous through lines led to a call being issued for a meeting of general freight agents to be held at Indianapolis on May 10, 1866. A committee was appointed to draft a constitution for a permanent organization to be known as the Association of General Freight Agents. This committee reported at an adjourned meeting held at the St. Nicholas Hotel, New York, June 27, 28, and 29 of the same year. The constitution, providing for an association to consist "of the general freight agents, or authorized representatives of the freight departments of the railway and steamship lines of the United States and Canada," was adopted. At this meeting there was discussion of the classifications of eastward and westward bound freight which were then separate; the maintenance of rates by the eastern and the western lines; the cutting of rates by the boat

lines between Louisville and Cincinnati. Differences were established between rail and water rates on flour to the East; rates were adopted from various places in the interior to New York, and on cotton from Memphis to the eastern markets. This association was evidently, therefore, the precursor of the somewhat more firmly cemented associations of the following decade.

The discussions indicate that considerable competition had already arisen between the lines leading to the seaboard, which became the more pronounced with the development of the fast through freight lines. The various companies participating in one of these through lines maintained an organization especially in its interest, headed by a manager who employed agents to solicit freight in its behalf, and attended to the investigation of claims and other business affecting the through line. The employment of variously designated agents to solicit freight for their divers lines also became the common practice of the separate railroad companies. These solicitors spent about all of their time in going about among the shippers, ascertaining when a consignment was ready to move and quoting the rates necessary to secure it. Their anxiety to obtain freight and ability to quote rates regardless of the published tariff and without communication with their superior officers led to their becoming a most troublesome and persistent factor in creating rate disturbances. Their superior officers, the general freight agents, would often connive in their cutting of rates when it meant the obtaining of business that otherwise might have gone over the rails of a competing line. But even when these general freight agents would, in all sincerity, forbid the solicitors to depart from agreed rates, those men, because of their intimate knowledge of the shipping procedure, could suggest to shippers, when soliciting their traffic, dodges and evasions of one kind and another through which their merchandise could be moved at lower than tariff rates.

As the adjustment of rates and the promulgation of rules and regulations governing traffic became more and

more centralized in the various traffic associations, the function of these soliciting agents tended to become less that of a free lance and more that of a scout who, while actively soliciting business, came in closer subordination to the general freight agent, keeping him constantly informed as to the traffic conditions in the district in which the solicitor maintained acquaintance with the shippers and watched the action of competitors.

During the period of chaotic competition the time of the general freight agent was largely occupied with attending meetings, at which it was agreed to maintain rates, and in the intervals either directly or through the soliciting agents purchasing business at the best terms obtainable. At the beginning of a year an arrangement, for instance, would be entered into with a cattle dealer whereunder he agreed to make all of his shipments, or, perhaps, a specified proportion of them, over the line of the railroad throughout the year if it would pay to him, say \$5.00 a car. A similar arrangement would be made with a grain shipper for a few cents per 100 pounds. At the end of the year the cattle shipper and the grain shipper would turn up at the general office of the railroad and receive the agreed compensation, which, of course, was equivalent to a rebate.

As the era of chaotic competition passed into the period during which a measure of restraint was exercised through traffic agreements, pooling associations and arbitrations of one kind and another, the attention of the general freight agent was in great measure turned toward securing the largest consideration for his company in the various adjudications. This is the period when the regional rate structures and the commodity rate structures began to assume definite form.

The amalgamation of the smaller lines into the large railway systems led to the centralization of the directive functions, that had theretofore been performed by several general freight agents of various lines, into the hands of one ranking officer charged with the conduct of the freight traffic of each system, who, in most cases, came

to be designated as the freight traffic manager. Through such an officer a shipper can often in half an hour—even from a remote city, by telegraph, if necessary—gain information or make arrangements for traffic requirements that in previous decades would have required communication or a personal conference between half a dozen general freight agents that might have consumed a week. Such an officer, less burdened with detail, is in constant receipt of information as to the volume and flow of traffic throughout the territory penetrated by his lines and has time to give to the consideration of means by which that traffic can be developed. It is such consideration that has led to the establishment of industrial agents, who familiarize themselves with the natural resources of the regions served by their lines, and endeavor to attract agricultural, industrial, and commercial enterprises to the localities naturally fitted to their prosecution. It is this consideration that has found fruit in the establishment of the demonstration trains that are an admitted benefit to the growers of grain, fruits, and vegetables, of poultry and cattle, and to the manufacturers of dairy products.

The diminution of unrestrained competition, the better ordered conditions that were being brought about by the era of pools and agreements, tended to make the freight traffic officer, whether a solicitor, a general freight agent, or a freight traffic manager, more of a student of economic conditions, less of an intriguer with the shipper, less of a wily and foolhardy foe of his competitor. This development, with occasional retrogressions, continued with results that on the whole were beneficial and progressive until it was rudely interfered with by the era of legislation that, prohibiting pools and traffic agreements, finally sought not simply to regulate, but through legislatures and commissions to administer the railroads. For a period of several years the time of the freight traffic officers was largely taken up with the preparation of presentations and arguments for submission to legislatures and commissions, and,

finally, as many ill-considered laws found their way to the statute books, with the endeavor to sail between the Scylla and Charybdis of conducting affairs on the one hand without violating the law, or, if they did, to do so without being found out, and on the other without incurring for their companies a greater loss than could be avoided.

The failure of many of the hastily made laws to stand the test of constitutionality, the ultimate enforcement of the Elkins Law against rebates, the prohibition of the issue of passes, which had, at various times been a most effective instrumentality for the securing of traffic, and the severe penalties against the cutting of published and legal rates, have brought about an evident change in a large portion of the activities of the freight traffic officers. The freight solicitor still endeavors to keep on cordial terms with the shippers in his district and to merit their confidence by the performance of a hundred and one offices which facilitate their intercourse with the railroads and the movement of traffic. Instead of promoting all the stealthy ways in which a rate may be cut, he must familiarize himself with the current tariffs so that he can readily quote rates on any commodity to any place. He must talk convincingly as to car supply, time of trains and facilities in general for handling traffic. He must trace and endeavor to expedite the movement of shipments. The freight solicitor many years ago was aptly termed "an employee of the shipper in the pay of the railroad," because of his ingenuity in conniving with the shipper to get the better of other railroads in the interest of his own; or sometimes, indeed, ingratiating himself with a shipper by pointing out ways to evade even the tariffs and regulations of his own company. He is now none the less the employee of the shipper, in that he ministers to his needs in numerous ways, looking after details of transportation in his interest. He is especially useful in the negotiation of details with the operating officials of a railroad that would not otherwise come to their attention.

The general freight agent and the freight traffic manager find that the shipper who seldom complained about the service in the days of rebates, allowing delays in movement to pass without comment, is now quick to call attention to comparatively slight delays and minor faults. This is causing more studious attention to the characteristics and needs of the different kinds of traffic and provision of the facilities required for prompt movement and satisfactory handling. The main currents, rather than the eddies, are now foremost in their consideration.

In dealing with one another in regard to traffic, competing railroads have a greater degree of mutual confidence than ever before. There is not the fear that the rates will be cut. A meeting of traffic officers is no longer a conference of competitors, each so suspicious of the other that he is afraid to say what he thinks; but a consultation of experts, whose minds are devoted to the solution of the problems presented to them, with a desire to obey the law and conserve the business interests of the country as well as the traffic of the railroads.

Such meetings with the traffic officers of connecting railroads, at which are discussed matters pertaining to the exchange of traffic, the division of through rates, the securing of the application of rates over connecting lines that will permit commodities to move to markets from a producing region, now consume a great deal of the time and energy of every freight traffic manager and general freight agent. The collection and arrangement of the information necessary to the intelligent participation in such discussions, and the conduct of the correspondence with other transportation companies incident to the matters considered in and arising from such discussions, absorb much of the time and energy of their office forces.

Due credit should be given to the officers of the freight traffic departments for that extension of markets which is one result of their efforts to increase the traffic of their companies. As the information which comes to

them of the ebb and flow of supply and demand in various commodities gives them an intimate knowledge of market conditions in an extended territory, they are often able to call the attention of shippers to openings through which their business can be extended.

There are numerous examples of this discernment. A few years ago it was evident that there would be a dearth of ice during the ensuing summer in eastern Pennsylvania, the ice crop at the customary sources having largely failed. A general freight agent asked the managers of a manufacturing ice company why they did not make ice in excess of their current demands and store it. They replied that there were no available storehouses. The general freight agent instituted inquiry that brought to light several empty ice houses and made such low rates from the factories to them that the company could afford to make ice and ship it for storage. In the summer it found a ready market, affording profit to the ice company and to the railroad company, while the consumers were greatly benefited.

The general freight agent of a railroad on Long Island found that large shipments of fertilizer were going out of New York to potato fields at the eastern end of the line, but that no potatoes were being shipped from those fields to New York. Upon inquiry it was ascertained that the potatoes were being taken across Long Island Sound for consumption in southern New England. The growers said that no shipments were made to New York City because that market was supplied from other sources. The general freight agent thereupon printed a circular calling attention to the practicability of obtaining fresh potatoes from fields not far distant from the city, and mailed a copy of it to every produce dealer from Harlem to the Battery, with the result that the Long Island farmers quickly received orders which have so increased as to necessitate a substantial enlargement of their operations.

It was the foresight of the railroads serving the populous regions in eastern Pennsylvania, northern New

Jersey, and southern New York that gave the first great impetus to the consignment of fruits and vegetables from the far South to those markets. Representatives of the railroads had studied the capacity of the southern soil for production and of these markets for consumption, and put before the southern farmers the desirability of expanding their cultivation. In like manner representatives of the railroad companies have been energetic in furthering the sale of these products over extending areas. A traveling freight agent, for example, went to a grocer in a town of upper Vermont, asking why he did not get strawberries direct from the South by the carload instead of buying a few crates at a time through commission dealers. The grocer replied that nine-tenths of a carload would spoil on his hands. The freight representative suggested that he try the experiment for once, making special announcement to consumers in his own town and sending word to grocers in adjacent villages. The result was that an entire carload of strawberries was disposed of in three or four days, the profit of two or three hundred dollars opening a new field to the eyes of the grocer. The extension of the carload rate applying to New York or to Philadelphia to the respective groups of stations within one or two hundred miles of those cities has facilitated the distribution of these fruits and vegetables with annual augmentation in their sale.

Incidental to the freight traffic department are other functions, some of which are performed by each railroad for itself, while others are effected through agencies, each of which may be established and maintained by a number of railroads.

The function of the freight claim agent belongs to the former class, the freight claim bureau having long been an important adjunct of the general freight office. All claims for recompense because of overcharge of one kind or another, because of loss through articles having been destroyed through misshipment or theft or otherwise, and because of damage through wreck or fire and from

other causes, are referred to the freight claim agent for investigation and report as to the justification for making settlement with the claimant. The investigation of a claim, the securing of statements of the various agents and conductors through whose charge the shipment may have passed, often consumes time, which is all the more extended in the case of a through shipment that has passed over many railroads, the employees of each of which have to be interrogated.

It was, for a long time, the practice of many companies to procrastinate in making settlement, even after a claim was ascertained to be just. This was a main cause in the irritation which developed into the popular antagonism to the railroads. The companies have come to feel the necessity for more prompt settlement, and many of them have authorized their local agents to make immediate recompense out of their cash boxes for losses and damages of small amounts in cases that are obviously well founded. The freight claim bureau is also charged with the adjustment of the claims for overcharge that may have been caused through clerical error of the agent billing the shipment, or for one reason or another.

An abuse to which the railroads have been long subjected is the practice of shippers, not overscrupulous, to misrepresent the contents of packages in order that they may receive the benefit of a rate applying to a lower class than that in which the shipments belong; and in cases where for one reason or another shipments cannot be weighed at the place of receipt, to make understatements of the weights. Such practices were connived at during the era of unrestrained competition. They were of the nature of rebates and each company feared to take effective steps toward their abolition in the fear that the shippers would send their freight over the lines of more acquiescent competitors. The problem was finally solved by the establishment of joint weighing and inspection bureaus, which are maintained jointly by the various railroads. Such a bureau is located at each of the

principal shipping points and its inspectors deploy within a considerable radius of that point, the country in general being fairly well covered by their operations. These bureaus and their inspectors have unearthed abuses whose detection and prevention saves the railroad companies hundreds of thousands of dollars annually.

The formulation of rules for the proper packing, marking, and handling of powder, dynamite, nitro-glycerine, and other material easily susceptible of explosion, and their enforcement, has been placed in charge of the Bureau of Explosives, an organization subsidiary to the American Railway Association, through whose offices the risks arising from this transportation have been minimized.

CHAPTER XV

THE BASIS FOR THE TRANSPORTATION CHARGE

THE old-time turnpike, both in England and America, was a public highway over which anyone could drive his own horse and wagon by paying for the support of the road a toll that was composed of an assessment upon the number of horses attached to the conveyance and, not infrequently, of an additional assessment upon the contents of the wagon. That is, the owner of horses and vehicle paid a transportation charge which contributed to a return on the cost of the road and to the expense of its maintenance, but he provided the equipment and the motive power himself. A shipper hiring the services of a turnpike wagon in forwarding goods paid a transportation charge which contributed to the payment the wagoner was obliged to make to the road, and also contributed to the cost and maintenance of the wagoner's equipment—*i.e.*, the wagon, and the motive power—*i.e.*, the horses. Over the primitive railroads, as over the turnpike, any person was privileged to forward his own wagons. A charge, as by the toll road, was made upon the wagon and its burden, and also upon the tractive power, for the cost and maintenance of the road. As on these first railroads horses were usually the tractive power, the practice was not markedly more difficult in application than to the toll roads. As horses were superseded by the locomotive, it became impracticable for the shippers to own their motive power, but they continued for a considerable period to own vehicles. Separate charges were at first made by the Philadelphia and Columbia, and doubtless by other railroads, for the use of the road and for the use of the motive power; a toll for the benefit of the road being placed upon the car and a toll for the benefit of the road on its con-

tents; a toll for the benefit of the motive power on the car and a toll for the benefit of the motive power on its contents. In the accounts separate allotment was made of these tolls to the purposes for which they were collected.

This method of levying the transportation charge was not uniform, and by the time the railroads had admittedly outstripped the canals their tariffs generally were based upon either the bulk or the weight and, as we have learned, came finally, without exception, to be based upon the weight of the commodity carried. It is evident, however, that the revenue collected even upon this basis must be applied to the upkeep of the road, to the support of the equipment—both cars and locomotives—and to the expense of operation as well as to the return upon capital.

A modern railroad, therefore, consists of the roadway over which traffic is transported, the equipment by means of which and in which that traffic is transported over the roadway, and the various appurtenances of roadway, equipment and transportation.

The construction of the road includes the grading, the building of embankments, the erection of bridges, the boring of tunnels, the laying of ballast, ties, and rails for main tracks and sidetracks, the provision of yards, telegraph lines, switches, signals, stations, and all the appurtenances of each of these components. While the expenditure for a given length of road may be fractionally greater or less, as there are more or fewer sidetracks and stations, greater or less necessity for bridges and tunnels, a tremendous investment is requisite before the company can engage in the movement of traffic, or before it can know how much traffic will come to it. Bridges and stations are beaten and worn by the weather, tracks rust, ties decay, ballast and embankment are wasted by rain and snow: therefore, there is compulsory a large outlay for the maintenance of road in conflict with these destructive agencies that is independent of the volume of traffic.

It is a practical impossibility for a railroad company to provide exactly the number of cars and locomotives needed for the volume of traffic that may accrue to it at any given period, because the volume of that traffic rises and falls at different seasons of the year and one year after another. With the same equipment it may run a greater or fewer number of trains as the traffic may demand. In stations ticket agents, baggage men, freight agents, cashiers, and freight handlers are needed: the aggregate number may vary within limits as traffic may be light or heavy, but large working forces must be kept even for the lightest traffic. At the general offices a force extending from the heads of administration down to the corps of clerks is necessary, the number of these varying only fractionally with the volume of traffic. Last but not least of constant expenditures are taxes, which, under the methods of assessment generally prevailing, must be paid regardless of the amount of traffic.

It will be perceived that a large investment is imperative in the preparation of a railroad before it can carry traffic, and a large expenditure is requisite for its maintenance, whether it carry traffic or not. There is a further kind of outlay which varies more nearly in proportion to the volume of traffic, that which is incurred directly for operation. This includes the provision of the fuel, oil, and waste consumed in the movement of trains, and the salaries of enginemen, firemen, conductors, brakemen. These vary with the number and mileage of trains, but still, a train can be run 120 miles, for instance, at relatively less expense than for 100, and it may haul 20 cars at but a trifling higher cost than 15. Even if it be attempted to apportion this running cost per unit of traffic it must be remembered that at times a passenger train may have but a dozen occupants, while at other times fifty; that a freight train may consist of a greater or a lesser number of cars, that it may consist entirely of loaded, entirely of empty, or in parts of loaded and of empty cars.

Even if all freight were entirely homogeneous, every

given cubic content being exactly equal to every other in texture, weight, value, and all other characteristics, it would be difficult to ascertain from first to last, from the share of running expense to the share of expenditure for maintaining bridges and culverts, just what proportion that given cubic content of traffic should contribute to each. If it were endeavored to base the charge for transportation upon the cost of moving any given unit of even an absolutely homogeneous freight traffic, it would have to be borne in mind that fire and flood wreak greater devastation one year than another; that fuel is more expensive in one part of the country than another; that greater investment is necessary for the construction, and greater outlay for the same volume of traffic in the operation, of roads that are built across ravines and over mountains than for those laid upon the prairie; that the cost of operation is relatively greater on branch lines of light than on main lines of heavy traffic. Even if freight were absolutely homogeneous and it were the endeavor to charge for the transportation of any given quantity in proportion to the cost of transporting that given quantity at any given time, that transportation charge would have to vary from time to time as the factors that have been specified may vary.

It is evident that the only way in which the cost of transportation could be ascertained would be to calculate for all traffic for a given time on a given railroad, or portion of a railroad, the running expenses, the operating expenses, the administrative expenses, the maintenance expenses and the taxes. This total cost would have to be apportioned between the passenger traffic and the freight traffic. If this be done, as is the general practice, by dividing the residue, after the expenses directly allotable to each kind of traffic have been ascertained, in proportion to the number of revenue passenger train miles and revenue freight train miles, the apportionment is but an approximation. Let it be assumed that this approximation be the fairest possible and that the aggregate apportionment represent the total cost of trans-

porting the total volume of freight for the given period. The total of the amounts obtained by multiplying each ton by the number of miles it was carried will represent the aggregate of tons carried one mile; that is, the ton miles. If the entire cost of freight transportation be divided by the total ton miles the quotient will represent the cost of transportation of one ton over one mile; that is, the average cost—it is only an average. If an amount necessary to make return upon capital, adequate, at least, to attract additional capital when needed and to provide a surplus sufficient for emergencies, be apportioned between the passenger train traffic and the freight train traffic, and the sum apportioned to freight be divided by the total ton miles, the quotient will indicate an amount which, if added to the previous quotient showing the cost of transportation, would give the amount that should be charged for transportation per ton per mile. This, however, would be but an average even in the case of traffic absolutely homogeneous in bulk, weight, value, and every other characteristic. It would be an average based upon past and not upon future traffic.

The freight traffic is, however, anything but homogeneous. A certain degree of homogeneity is manifested by the great train-loads of grain, flour, dressed meats, fruits, and vegetables that move from the place of assembly to the principal markets. When such train-loads of one commodity are the chief product of a region to and from which little other traffic moves, the cost of transporting that traffic can be very closely approximated. In other than such instances as these, nearly every train is loaded with a great variety of commodities and often carries a number of empty cars. In such cases the actual running expense of any particular train, or any particular car as a fractional part of that train, can be very closely approximated. To subdivide that running expense, ton for ton, among all the different commodities that in differing quantity may constitute the train-load may not be impossible. This could be done by sub-

dividing the total running expense of a train by the total number of tons and multiplying the quotient by the number of tons of each commodity. That is, this quotient would apply if all the commodities in that train were carried from the beginning to the end of its run and if all the cars were loaded. Further complications ensue if, as nearly always happens, certain carloads or less than carloads were taken off at various stations, and other carloads or less than carloads were taken on at various stations, or if one or more of the cars were empty. Even could a dependable estimate of such cost be ascertained under these further complications, it would be the cost per ton of the running expense for that train only. This cost would vary with different trains as they might run longer or shorter distances and as they might carry a greater or a lesser number of cars. The application of the cost of transportation per unit of traffic carried, in all its ramifications down to the maintenance of roadbed, would still be only a matter of average over a given line for a given period, and it would vary on different railroads.

Granting that this average cost of transportation per ton per mile could be satisfactorily determined, and likewise the average additional amount necessary to make each ton mile pay its proportion of the return to capital and contribution to surplus, how could the sum of these averages be applied to each ton of traffic, as the aggregate of traffic is constituted?

If the rate thus found were applied to every ton for every mile transported the same rate would apply to feathers and to iron ore, to silk and to sawdust. As it requires several times as many cars to transport the same weight of feathers as of iron ore, or the same weight of silk as of sawdust, this means that the railroad would be placed at much greater expense to earn the toll on feathers than on ore, or on silk than on sawdust. This also means that the same transportation charge would apply to the less valuable commodity, the less able to bear it, than to the more valuable commodity, which can

more readily bear a higher charge. If it were attempted to equalize the charge between these different commodities on some other basis than that of weight, there would have to be reversion to the practice of the old-time wagoners in having two such different bases as cubical content and weight. This would mean the immediate uselessness of the average cost per ton arrived at through the calculations that have been described.

It was the early struggles in regard to the basis for the transportation charge, through which even the canals, that antedated the railroads, passed, that led to the device of classification. Indeed, the custom of the wagoners to charge by the cubical content for articles light in weight and by the 100 pounds for articles heavy in weight was a rudimentary classification. It was early ascertained that articles heavy in weight but low in value—such, for example, as stone, brick, coal, cement—at an average rate would not seek transportation except for very short distances, the mounting transportation expense soon making the cost so high that the commodity could not be marketed. On the other hand, articles low in weight but high in value, such as silks and other fabrics, and many kinds of tools and utensils, could be conveyed long distances at comparatively high rates with little or no appreciable effect upon the cost to the producer or the price to the consumer. It was also early learned that the transportation of the low grade commodities from places where they were produced to places where they could not be produced, even for considerable distances, often met requirements necessary to the establishment and growth of communities. At those considerable distances there might be the material and facilities for the production of other commodities of commercial value; and such communities, moreover, furnished markets for the high grade commodities. The railroads, therefore, found that by making low rates upon the low grade and high rates upon the high grade commodities the communities in general were benefited and the traffic of the railroads increased by the rates that, although

discriminatory, were justly so, in the very nature of things.

A main purpose of the classification, therefore, has been to facilitate that adjustment of rates between the various commodities which enables articles that are for sale to be transported to where there are buyers: that is, the classification is a device which facilitates the adjustment of rates in the interest of commerce.

As a railroad company, however, in so far as its income and outgo are concerned, is a private business corporation dependent for its success upon producing a credit balance sheet, it is evident that its total income must exceed its total outgo: in other words, that its rates must be so adjusted that the aggregate of the revenue, derived from the commodities of various kinds transported in divers quantities, exceed the total expenditure for all purposes.

In the case of a new railroad penetrating an undeveloped territory the rates first established are even to this day experimental, arrived at after a study of the rates and the volume of traffic moved upon other railroads in regions of similar characteristics. Such experimental rates need to be modified from time to time until they are fairly adapted to the requirements of the population dependent upon the railroad, and to the requirement of the railroad that its traffic yield a profit. In the older and more densely settled parts of the country, where there is a wide diversity of traffic, accumulated experience has taught the railroads what rates will yield the greatest net revenue without prejudice to the movement of any commodity. That is the essential point, but so difficult of determination in practice that it is almost theoretical. A rate may be so high that it will diminish the amount of traffic which would move at a lower rate and which the railroad company could better afford to carry at that lower rate rather than not at all. Vice versa, rates may be lower than that necessary to bring out the fullest traffic without injustice to either shipper or consignee. A railroad in an undeveloped region cannot know what volume of

traffic in a particular commodity will be forthcoming at a specific rate until that rate has been placed in effect, and hence the necessity for experiment. In an older and more densely settled region the volume of traffic of each of the leading commodities of commerce, its fluctuations from year to year, and the effect of rate variations upon those fluctuations are fairly well known.

In considering at what rate it will carry a commodity it is necessary for a railroad company to reflect whether that commodity will freely move at a rate which, judged by the averages calculated upon its total traffic of a preceding period, will contribute to all expenditure and, in addition, to capital or surplus; or whether it will not move except at such rate as will contribute only to expenditure for both operation and maintenance; or whether no higher rate can be obtained than will pay for the actual expense of movement, which, in some instances, may be only what it would cost to haul one or more additional cars on a train. Or, to put it in another way, which is the phase most often presented to a railroad company, it has to consider in which of these degrees the revenue yielded by traffic obtainable at a certain rate will contribute.

In all such contemplation it is necessary for a railroad company to weigh, not only the direct effect of the immediate traffic upon its revenue, but the indirect effect of that traffic upon its total revenue. To aid a manufacturer to utilize a raw material, such as clay in making earthenware, or an inferior wood in shaping such products as may be marketed, railroads have often granted rates on such raw material that no more than cover the immediate expenses incurred for its movement, so that they may secure the traffic in the product, and the traffic in the general merchandise consumed by the workingmen and their families dependent upon the industry, the operation of which the low rate upon raw material makes possible.

It is for such reasons that low rates have been made on raw material of various kinds, on the fruits and

vegetables of distant orchards and truck farms to metropolitan markets, such rates as on the fruits of California to all places in the East. It was such motives as these that led the railroads first penetrating the remote forests of the South, Southwest, and Northwest to grant what were apparently ruinously low rates on lumber, their desire being not only to secure the traffic that would follow the development of the lumber industry, but to further the clearing of the soil for agricultural and other uses that would bring a diversified traffic.

Over a trunk line, along which commodities flow in great volume in a main traffic channel, a railroad may profit by a rate per ton per mile that would be ruinous on a line of less traffic, especially on a branch line of scant traffic. In the one case, because of the great volume of traffic, it does not require a rate vastly higher than that necessary to cover the handling expense to produce sufficient revenue to defray all of the expenses. In the case in which all of the expenses must be met by a small traffic, each unit of traffic must contribute in greater proportion to the other than handling expenses and, therefore, the rate per unit of traffic must be higher.

In making an estimate as to what proportion of its expenditure the traffic moved upon a certain rate will contribute, the railroad has to take into account whether it will take the traffic at that rate, or lose it in the event that it can obtain no more.

In the case of water competition it has to decide whether it will take that share of the traffic which can be secured by approximately meeting the water rate. In the event of competition with another railroad it has to consider whether it will take traffic at the rate offered by the other railroad. In these instances the decision almost invariably is that, if the competitive traffic in question can be obtained at rates that will more than pay the immediate expenses of movement, it is better to take it than to lose it.

This was the nub of the situation during the rate wars

which are almost entirely of a past generation, and in the cases of the pressure brought by the great oil companies and the great packing houses for low rates upon their traffic, or for collateral advantages, such as oil contracts and exclusive refrigerator car contracts. The vast traffic which these great companies could turn to one or another of rival railroads was not to be ignored by any railroad that under the very conditions of its existence was obliged to struggle for pecuniary success.

This consideration has application in the case of that competition which applies from contiguous stations of competing railroads. For example, during the period of the rate wars on cattle from the northwestern grazing grounds, when a radical railroad would make a decisive cut in the rate on livestock from one of its stations, a more conservative rival at first refrained from meeting such a reduction. It thought itself better off by not carrying the unremunerative traffic, and allowed the cattle to be driven across the country to the station of the competing road. It found, however, that the station to which the farmers drove their cattle was the station to which they took their poultry and eggs, and where they purchased their wearing apparel, household goods, flour, coffee, sugar, hardware, and agricultural implements, and that, therefore, to refuse to meet the competitive rate for livestock meant the loss, not alone of the livestock traffic, but of all the traffic in the merchandise entering into the farmers' consumption.

In deciding whether or not to take traffic at low that cannot be secured at high rates, a traffic manager has always been obliged to reflect that traffic that more than pays the immediate outlay for its movement contributes by the amount of that surplus toward meeting other expenditures which, if the low-rate traffic were not taken, would have to be defrayed entirely from the revenue derived from other traffic. The through railroads of this country, for the greater part, have been built to and from cities that were those of the greatest importance before railroads existed. The larger business of these cities

attracted traffic, brought other railroads that were forced by competition to struggle for that traffic, and, therefore, to make lower rates than for the traffic to and from intermediate stations that was not under such competition. To such instances as these applies this principle: through competitive traffic, yielding more than running expenses, helps to defray the expenditure necessary to move traffic to and from intermediate stations, which intermediate traffic would have to bear the entire expenditure if the competitive traffic were not taken.

This discussion leads to the perception that, in adjusting their rates in order that their total traffic shall produce sufficient revenue to more than cover their expenditure, the principle which the railroads have been forced to observe is that known as "what the traffic will bear," which is equivalent to not charging "what the traffic will not bear." What the traffic will bear under the unrestrained competition of carriers means, however, no more than what the longest, weakest, and worst managed lines in their respective struggles will carry the traffic for: this is a serious modification of charging what the traffic will bear under market conditions. It is this adjustment of rates on various commodities, which will permit them to be sold and to be purchased with advantage to both the seller and the purchaser, that, in the aggregate of its effect, has been a powerful factor in the upbuilding of communities and the development of the entire country. It is this policy which brings the cotton of the South to the New England mills and takes cotton goods from the southern mills to the markets of the West; which places the fabrics and appliances of the North Atlantic seaboard on the shelves of merchants in the interior, in the South, in the West, and on the Pacific Coast; which brings the cantaloups of Colorado to the table of the clerk and the wage earner in Buffalo and Boston; which has enabled the grain of the western farms to be exported to Liverpool; which has placed the products of every kind—except the heaviest and coarsest—from every place of production,

in competition in practically every market throughout the United States.

If the charge of so much per mile, or a distance tariff, had uniformly prevailed upon all commodities, while merchandise of the higher classes would still move from various sources of supply to divers markets, raw material would not be transported from places of production to remote places of manufacture. If that arrangement, whereby rates per mile decrease gradually with the distance, known as the "tapering tariff," had alone prevailed, the centers of distribution would be at the sources of production. The great cities that have grown from their beginnings on the waterways would have developed to a still greater degree of importance than at present; there would not be the interior distributing centers, nor that decentralization of distribution toward which there is an accelerating tendency.

The average cost of transporting one ton per mile, the average revenue obtained per ton per mile, and the average cost per freight train per mile, are computed by the railroads and enter to a greater or lesser degree into that consideration which determines the rate charged for the traffic of the various kinds, which determines whether at an obtainable rate it were better that the traffic in question be accepted or rejected.

The revenue per ton mile, that is actually obtained from various commodities under this principle of charging what the traffic will bear, modified by the competition of rival railroads, of waterways, of the pressure of large shippers who have been able to impose their will upon competing railroads, and the other factors that have had their effect, is shown by the following statement, which is that of one of the prominent railroad systems of the United States, moving a large and diversified traffic. This statement is the result of an analysis of its traffic for the year ending June 30, 1907.

Interesting as this table is, it is at best but an analysis on a mathematical basis of a vast number of movements over an extensive field, and, therefore, but a series of

EARNINGS IN MILLS PER TON PER MILE

COMMODITIES	Derived from commodity alone, not including weight of car or of empty cars hauled	Derived from weight of commodity plus weight of car, but not including empty cars hauled	Derived from weight of commodity plus weight of car and plus weight of empty cars hauled
PRODUCTS OF AGRICULTURE			
1 Wheat	9.85	6.43	5.94
2 Corn	10.30	6.47	5.95
3 Oats	9.21	5.24	4.76
4 Barley	18.88	10.53	9.56
5 Rye	10.03	6.34	5.84
6 Rice and Rice Products.....	6.80	3.77	3.42
7 Flour	8.73	4.44	3.99
8 Other Mill Products.....	8.51	4.42	3.98
9 Hay, Straw, and Alfalfa.....	13.78	5.46	4.79
10 Broom Corn.....	20.39	7.40	6.45
11 Cotton	19.33	8.43	7.46
12 Cotton Seed and Products, Except Oil.....	12.59	7.16	6.51
13 Flax Seed and Products, Except Oil	13.73	7.56	6.84
14 Potatoes	10.22	4.95	4.42
15 Dried Beans and Peas.....	6.41	3.52	3.19
16 Deciduous Fruits—Transcontinental	9.32	3.81	3.52
17 Citrus Fruits—Transcontinental.....	9.36	3.84	3.55
18 Dried Fruits—Transcontinental.....	7.31	4.18	3.80
19 Sugar Beets and Sugar Cane.....	18.43	12.00	10.22
20 Fresh Vegetables—Transcontinental	8.00	2.85	2.62
21 Other Vegetables.....	10.13	4.62	4.10
22 Other Fruits.....	16.14	7.25	6.57
23 Canned Fruits and Vegetables.....	9.81	5.24	4.73
24 Nuts	11.33	5.08	4.50
25 Other Agricultural Products.....	9.90	5.55	5.04
PRODUCTS OF ANIMALS			
26 Horses and Mules.....	16.94	6.43	4.33
27 Cattle and Calves.....	12.61	4.93	3.34
28 Sheep and Goats.....	11.49	3.11	2.82
29 Hogs	20.40	6.96	4.60
30 Dressed Meats.....	11.41	4.54	2.83
31 Canned Meats and Fish.....	6.05	3.34	3.03
32 Other Packing House Products.....	12.45	5.74	5.11
33 Poultry, Game and Fish (Fresh).....	11.74	4.82	4.45
34 Dairy Products and Eggs.....	16.45	6.04	5.55
35 Wool	17.33	6.45	5.64
36 Hides	10.15	5.18	4.65
37 Fertilizer	10.74	5.88	5.23
38 Other Animal Products.....	8.87	4.52	4.05
PRODUCTS OF MINES			
39 Anthracite Coal.....	5.88	3.87	3.20
40 Bituminous Coal.....	6.66	4.50	3.74
41 Coke	6.61	4.26	3.50
42 Zinc Ore.....	3.90	2.68	2.25
43 Copper Wire.....	12.47	8.48	7.09
44 Iron Ore.....	3.11	2.05	1.69
45 Other Ores.....	8.16	5.57	4.66
46 Borax	4.13	2.70	2.50
47 Bullion	7.72	4.99	4.61
48 Asphaltum	4.55	2.85	2.62

EARNINGS IN MILLS PER TON PER MILE—
Continued

COMMODITIES		Derived from commodity alone, not including weight of car or of empty cars hauled	Derived from weight of commodity plus weight of car, but not including empty cars hauled	Derived from weight of commodity plus weight of car and plus weight of empty cars hauled
49	Stone	8.56	5.92	4.98
50	Sand, Clay, etc.....	10.58	7.14	5.95
51	Salt	8.59	4.96	4.51
52	Crude Oil.....	11.70	7.16	5.70
53	Other Mineral Products.....	9.43	5.75	5.27
PRODUCTS OF FORESTS				
54	Lumber, Timber and Box Shooks..	6.55	3.79	3.45
55	Staves and Heading.....	5.26	3.17	2.91
56	Logs	3.35	2.18	1.62
57	Ties	5.47	3.43	3.15
58	Cord Wood.....	10.77	6.47	5.96
59	Poles, Posts and Mine Props.....	10.58	6.75	5.68
60	Other Forest Products.....	7.70	4.19	3.79
MANUFACTURES AND MISCELLANEOUS				
61	Refined and Manufacturing Oils...	11.36	6.74	5.43
62	Sugar	8.65	4.81	4.37
63	Glucose, Syrup and Molasses.....	8.47	4.63	4.19
64	Pig and Scrap Iron.....	6.86	4.13	3.78
65	Iron Rails and Trimmings.....	4.67	3.24	2.72
66	Iron Pipe.....	7.09	4.28	3.47
67	Structural and Bridge Iron.....	6.81	4.44	3.77
68	Bar and Sheet Metal.....	6.71	4.10	3.76
69	Stoves and Other Heating App....	11.29	5.40	4.91
70	Wire and Nails.....	8.38	4.50	4.07
71	Brick	7.62	4.95	4.57
72	Sewer Pipe and Drain Tile.....	9.29	4.74	4.25
73	Cement, Plaster and Lime.....	5.82	3.44	3.15
74	Agricultural Implements.....	14.91	6.98	6.21
75	Machinery and Castings.....	12.58	6.38	5.73
76	Vehicles	14.98	6.13	5.39
77	Household Goods and Emg. Mov....	14.56	5.67	4.97
78	Furniture	13.15	5.01	4.37
79	Pianos and Organs.....	16.31	4.36	3.73
80	Wine and Brandy.....	6.09	3.14	2.83
81	Beer and other Liquors.....	11.77	5.22	4.64
82	Paper, Pulp, etc.....	7.98	4.22	3.81
83	Empty Kegs and Barrels.....	7.01	2.46	2.14
84	Empty Cars—On own wheels.....	2.96	2.96	2.96
85	Ice	14.77	7.71	6.94
86	Water	7.94	4.74	3.42
87	Other Manufactures and Miscel...	8.80	4.55	4.09

relative approximations. The possibility of such approximations being made with conclusive accuracy for practical use is challenged by most railway executives.

Much as the principles underlying the transportation charge have been discussed, all writers of recognized

authority agree that the proper basis is what the traffic will bear. Not the cost of service, but the value of the service, is the essential point to be considered in the making of freight tariffs. That the revenue of a railroad company must bear some relation to its capital is self-evident. That specific rates, however, cannot be adjusted with reference to its capitalization is a corollary to the deduction that the proper basis is the value of the service, or, in other words, what the traffic will bear. Under the existing conditions affecting all business, when a new enterprise is considered the first calculation of the projectors is as to what markets they can enter, what prices they can obtain, and what quantity of product they can probably sell. From the probable revenue they calculate backward, estimating the probable cost of maintaining the plant and of manufacture and what residue will be necessary to provide for a return on the capital required for the construction of that plant. On a given capital it may sometimes be found that the estimated revenue will yield a high profit; sometimes the prospect is for an immediate profit that is but meager, but still the plant will be built in the hope of future development; sometimes the prospect of profit will be so slight that the project will be abandoned.

As an example of this consideration may be instanced the Cape Cod Ship Canal, a project that was proposed and discussed a hundred years ago. It was largely a matter of national protection then, the desire being to obtain a passageway from Boston to New York for vessels of the merchant marine and the navy, in which they would not be exposed to foreign attack. At this time the proposition is a matter of commercial profit. The commissioners had an expert estimate made of the amount of traffic that would probably go through the canal instead of going around Cape Cod, of the canal tolls that can probably be charged on such traffic and, therefore, of the probable aggregate revenue. A careful estimate was made of the cost of the canal and the probable expense for maintenance. In this manner was

reached the conclusion that the probable revenue will exceed the current expenditures by enough to provide for a return on the capital which it will be necessary to invest to produce the canal. All calculations are subject to error, all estimates are affected by the personal equation, the fulfillment of any prediction may be thwarted by occurrence of the unforeseen and, therefore, the construction of the Cape Cod Ship Canal is not without an element of hazard, which, however, the investors are willing to take. It will be noted that they have not first calculated how much it will cost to build the canal and then determine what tolls they will charge. They have first investigated what tolls the traffic will bear—that is, the tolls that will induce traffic to move by this route—as a measure toward ascertaining whether they dare invest the capital.

The same considerations apply to the adjustment of railroad freight rates. To say that rates have been made absolutely regardless of the capitalization of a railroad may sound preposterous, but it is very nearly, if not quite, true. Traffic officers have repeatedly stated under oath that in the fixing of rates the capitalization of their respective roads has never been a factor. An exceedingly bright and efficient general freight agent, whose time is largely given to the adjustment of rates, says that he does not know what is the capitalization of his company.

If a railroad could fix its rates in accordance with its capitalization, would any railroad ever go into bankruptcy? In 1894 a third of the railroad mileage of the United States was in bankruptcy. If it be argued that the capital was so inflated that they could not earn return upon it, the argument admits that rates cannot be forced up because capitalization has been forced up.

If a current valuation be urged as the basis upon which rates are to be adjusted, it is pertinent to ask what effect would the adjustment have upon the competition between railroads? Between the commercial centers A and B are two railroads, number 1 and number 2, each having towns of more or less importance along its line, but

each depending, in large measure, upon the share which it obtains of the through traffic between A and B. One railroad has been built along level country and, therefore, has cost less than the other, which has been constructed over mountains and across chasms. Are the rates on railroad number 1 to be correspondingly lower than those on railroad number 2? If so, all of the through traffic will go over the first railroad, and the second will be obliged to derive its entire revenue from the local traffic upon which it will, therefore, be obliged to impose still higher rates. Suppose that railroad number 1, while a good enough railroad, be not of the most advanced type, either in construction, equipment, or methods of operation; while railroad number 2, under efficient administration, has spent enormous sums in the improvement of its traffic structures, for the provision of expensive and efficient equipment, and in developing its methods to the highest standard. In this case, while the valuation of railroad number 1 would be far less than that of railroad number 2, the second railroad would be able, because of its efficiency and developed methods, to haul traffic at less expense. Are the rates of number 1 to be made lower than those of number 2 in proportion to the valuation? If so, a premium will be placed upon the unfortunate and the backward, the incentive toward development and improvement will be stifled.

These are no suppositious cases. They find conspicuous illustration in the entire trunk line situation between Chicago and New York, in the situation between Chicago and New Orleans, and, in greater or lesser degree, in the situation between any two or more important commercial centers of the United States. The earnings of railroad number 2 would not only be diminished, but the industries along its lines, by having to bear a greater proportion of the expense for the operation and the maintenance of the railroad, would be handicapped in competition with the industries on railroad number 1. If, by adjusting the rates according to valuation, one of two competing railroads be forced into bankruptcy it means a receivership.

What adjustment of rates will be allowed then? Will it in turn be allowed to force its competitor into bankruptcy? What adjustment of rates will be allowed the railroad to which traffic has not come in accordance with the hopes of its projectors and which, for this or other reasons, has struggled along for years without paying any dividend at all?

CHAPTER XVI

PUBLIC SENTIMENT AND LEGISLATION TO 1887

INASMUCH as the motive power of the very first roads with rails was furnished by horses, and the waterway was a tested means of communication, there is no cause for wonder in that public opinion was conservative in regard to the introduction of the locomotive. Indeed, after the Baltimore and Ohio Railroad had been built as far as Cumberland, the directors of the Chesapeake and Ohio Canal, which had also been constructed that far, seriously suggested to the directors of the railroad that, while the railroad could doubtless carry freight more quickly, it would never be able to carry it as cheaply as the canal, and that, therefore, it would be wise for the railroad company to abandon construction beyond Cumberland and join its capital with that of the canal company in extending the canal to the Ohio River.

Within the next twenty years, however, the superiority of the railroad over the canal as a constant, cheap, and speedy means of transportation had become demonstrated. By 1860, canals that had cost from \$14,000 to \$17,000 per mile in the interior States, and from \$40,000 to \$60,000 per mile in the North Atlantic States, were being abandoned: the energy and pecuniary resources of the country were turned toward the building of railroads. Subscriptions to capital were made from both private and public sources, it being the universal feeling that the railroad was the instrumentality most needed for the development of the country. This led to a strain upon private capital, especially as the railroads were largely constructed in advance of traffic. Because of lack of experience the building of both roadbed and equipment was crude, and usually so unsatisfactory that no sooner was a road completed than steps had to be taken toward

immediate reconstruction. The speculative promoter, and even the bare-faced adventurer, had already appeared with worthless stocks and bonds for which a market was found. Money was thrown away by the credulous, and lost in large amounts even by ordinarily careful investors. Public sentiment, however, was overwhelmingly in favor of railroad building. The State legislatures were liberal in the granting of charters, and, later, in the enactment of general corporation laws under which charters could be obtained without special legislation. The abandonment of such restrictions as were embodied in the early legislation was specially marked after the disastrous failure of enterprises owned and administered by the State, such as the Pennsylvania Line of Public Works, which that Commonwealth, after twenty-five years of pecuniarily disastrous administration, was only too glad to dispose of to a private corporation. This legislative amelioration is noticeable in the charters of—what were at that time—the Western States, in which the development of agriculture and stock raising made the need for railroads acute.

From the time when the railroads were established in competition with the canals, to the Civil War, every community strongly desired railroad communication: its citizens, both in their private and in their public capacity, were willing to make concessions often amounting to sacrifice to secure such communication. The completion of a railroad was always an occasion for public rejoicing: a special train, with the personages of the country as invited guests, was run from one end of the line to the other: at the principal cities en route and at terminals were processions of citizens to meet the train, brass bands, fireworks, banquets, and speeches.

During this period there does not seem to have been complaint as to the transportation charge. The era of the turnpike wagon and the slow-going canal boat was too fresh in memory for anyone to think of finding fault with the lower charges made by the railroads for the quicker movement of freight. If there were rebates

and other personal discriminations they were negligible both in number and in importance, being regarded as a natural recognition of the wholesale principle, or necessary to permit or promote the growth of industry. Complaints of rival communities were few and faint. The articles known to traffic could be numbered by the hundreds and those furnishing the greater portion of the freight by the dozens. Indeed, both in variety and in volume, the freight traffic of the railroads for the years preceding 1860 now seems surprisingly small. Contention arose in Georgia, however, in connection with the tolls to be charged by the railroad built and at first operated by that State. It was urged by one faction that the revenue of the road be kept to the lowest aggregate consistent with its maintenance and operation in order that the shippers and citizens might obtain the benefit of the lowest possible charges for transportation. The other faction advanced the desirability of the railroad being allowed to adjust its rates on business principles, to the end that should it prove to be more than self-supporting the State, which had made the investment, should reap the reward. The latter seem to have won. A similar contention of broader application has not ceased throughout the years. It is still held by many that the railroads of this country, although owned and administered by capital invested as is capital in private enterprises in general, should have their rates adjusted to the sole end of the augmentation of the profits of the shippers.

The first general complaint against the railroads has been indicated in a previous chapter. Individual railroads, each doing a local traffic, were loath to allow their cars to go from their own rails over those of another line, and to exchange through bills of lading. As was there stated, the military necessities of the government compelling the through transportation of troops, the growth of the mail routes making through service desirable, and the clamor of shippers at the inconvenience caused by the unloading and loading of freight at junction and terminal stations, led Congress, in 1866, to pass the law

which, while authorizing, did not compel the formation of through routes and the issue of through bills of lading.

The violent competition consequent upon the too rapid construction of railroads that followed the termination of the great civil conflict again involved many investors in losses. The ensuing irritation led to antagonism which fell, in large measure, upon those immediately charged with the administration of the railroads, many of whom were derelict enough in judgment, reliability, and even essential integrity. The solid strata, however, of managers and employees were not responsible for or connected with the obliquity of unscrupulous financiers, but were battling hard on the one hand for traffic that was bitterly competitive, and on the other for improvement in practice and economy that both ends would meet.

That cutting of rates and giving of rebates, which conservative managers deplored because of the constant devastation of revenue, presented another phase to the shippers and to the public in general. When rates were cut, restored and cut again with such alternate rapidity that the transportation charge between New York and Chicago, or any two other considerable commercial centers, varied as often as forty to sixty times within a single year, the range of the fluctuation frequently being 50 cents or even \$1.00 per 100 pounds, an element of variability entered into the cost calculations of the manufacturer and the merchant comparable to that caused by the fluctuations of an unstable currency. On large lines of raw material or of merchandise for distribution the rate of freight was so uncertain as to make the conduct of business a game of hazard between a manufacturer or a merchant and his competitors. The largest shippers, who were usually the shrewd bargainers, secured the lowest rates, and allegations of dishonest connivance between a traffic official and a shipper in the division of rebates were not always without foundation. During this entire period, however, the development of the country proceeded. The discriminations did not

seem to have a deleterious effect upon progress in general, nor upon the nation as a whole.

As the railroads were trying in vain to make an insufficient volume of traffic satisfy all competing lines, shippers were clamoring, not so much for low rates, as for uniform rates. Indeed, it was the common admission that the rates embodied in printed tariffs were not excessive, but that serious injury was inflicted by the uncertain departures from these rates. When, however, traffic agreements proved of some permanence through reinforcement by pools, there was the outcry that the railroads through combinations were restricting that freedom of competition which is the life of trade. Antagonism against the pools became no less violent than that against the prior rate vacillations.

An unvarying and widespread occasion for vituperation was the common practice, whether forced by unsurmountable competitive factors, such as the waterways, or by inevitable commercial necessity for the conveyance of products to market, or the whirlwind of the struggle for traffic, to reduce the rates between stations separated by considerable distances to a level lower than that of the rates which were maintained to and from intermediate stations. This practice, commonly designated as "charging less for the long than for the short haul," naturally seems unjust. The argument that if a railroad can afford to carry 100 pounds for 1,000 miles at \$1.00, it is an outrage for it to charge \$1.50 for 500 miles over the same line seems, upon its first statement, to be unanswerable. The railroads, whose fighting was not altogether unlike that of wild beasts in a jungle, were following the instinct of self-preservation common to both them and wild beasts, and all human kind. Although the economic justice that, under certain conditions, underlies charging more for the short than for the long haul, even upon the same route, had been pointed out by an English economist as early as 1849, his logic had not percolated the minds of the public, the shippers, or the majority of the traffic men themselves, who were ready to admit that

they were doing only what they had to do under the conditions that beset them, and did not attempt on an economic basis to justify this practice. It was not until several years later that the American economists, Hadley, Seligman and Taussig, gave enunciation to the principles underlying the adjustment of freight rates. It is beyond question that had these principles, resting as they do upon an adamant foundation, been properly set forth by instructors and the press, and had promptly penetrated to and found acceptance in the minds of the American people, the history of the American railroads would have been spared many of its most distressing pages.

As it was to the west of Chicago that the building of railroads received the greatest encouragement in the period immediately succeeding the Civil War, it was also here that the demoralization of rates became most pronounced and the public antagonism the most acute. One condition, in large measure, grew out of the other. The avidity with which nearly every proposal for the construction of a railroad was welcomed in Wisconsin, Iowa, and Minnesota, and especially by the farmers who wished to get their crops to market, brought forth many worthless schemes which deprived these farmers of their money without even the shadow of tangible return. The desire of the railroads to quickly dispose of their land-grants led to the offer at very cheap prices of thousands of acres, which were purchased largely by men of that adventurous spirit which is easily made antagonistic by even the semblance of injustice. Industrial and commercial conditions, moreover, had been thrown out of equilibrium by the return to peaceful pursuits of the hundreds of thousands of men who had been engaged in warfare. There was a too rapid building of the railroads and too rapid cultivation of the soil with resulting superabundant crops and falling prices. The lower the price for grain, the lower was the return to the farmer after the payment of freight. Although there was little or no pretense on the part of the railroads to observe published

tariffs, the farmers believed that even the rates that they were obliged to pay were too high, and they were embittered by the discriminations between one shipper and another. The railroads, at war for the movement of crops that, although abundant, did not furnish sufficient volume of traffic to keep them profitably busy, were struggling to secure such revenue as they might by buying traffic at such rates as were necessary to secure it. There was practically no consideration given by the shippers to the needs of the railroads. On the other hand, to the officers of the railroads the farmers seemed so saturated with suspicion as to be utterly unresponsive to a logical exposition of the situation, and both the officers and agents frequently displayed an arrogance that enhanced the rage of the public in general. Popular sentiment adverse to the railroads ran so high that the legislatures of Iowa, Wisconsin, and Minnesota passed laws prohibiting discriminations, the charge of less for the longer than the shorter haul, and other practices of which they disapproved. Although these enactments, designated as the Granger Laws, because they were for the most part instigated by organizations of farmers called Granges, did not provide adequate instrumentalities for their enforcement, it was soon found that the law in Iowa, forcing all the tariffs of the Iowa railroads down to the lowest competitive level, reduced their revenues to the point of impoverishment and deprived the State of capital needed for its development. The Iowa law was repealed in 1876, two years after its enactment, and the repeal of much of the other Granger Laws followed.

Practically coincident with the rise of the Granger agitation, certain of the States were developing other agencies for the scrutiny, and, in some cases, for the regulation, of the railroads within their borders. As early as 1844 the State of New Hampshire established a board to inspect the physical condition and operation of its railroads. This was the outgrowth of the general fear that the new methods of transportation were beset

with danger. This action was followed during the next quarter of a century by the appointment in Connecticut, Vermont, Maine, and Ohio of similar commissions to whose duties was here and there added the function previously exercised by temporary boards of arbitration in matters of land appraisal, the award of damages and other disputes that might arise out of the survey, the construction and the operation of railroads. It was in 1869, in Massachusetts, under the leadership of Charles Francis Adams, that these separate functions were definitively combined in a permanent State Commission. One State after another has subsequently appointed such a body, until a commission exists in thirty-nine of the forty-six States of the Union. Their powers, however, are vastly different. The advisory commission is typified by that of Massachusetts, whose duty it is to inspect both the physical operation and financial management of the railroads, to arbitrate disputes as to rates and other differences between the railroad companies and the public, and to make annual reports to the legislature. It is generally admitted that the service of this commission in bringing matters pertaining to the railroads of its State, by temperate and well-digested reports, into the full light of publicity, has exercised a restraining influence upon the railroads that has been beneficial in the highest degree. Of the other type of commission, that invested with the authority to prescribe rates and issue rules for the observance of the railroads, a most pronounced type is that of Texas. This commission, from its organization in 1890, has exercised well-nigh despotic power over the railroads of Texas, with the result that they are in the poorest condition financially, and are the most sadly hampered physically, of any in the United States. Between these two extreme types the powers of the different State commissions vary within wide range, in some States being exercised with great discretion, as in Wisconsin; in others being administered by demagogues, ignorant of the elementary principles of railroad practice. In the State of New York the Public Service Commis-

sion is practically a supervising board of directors to scrutinize the actions of the boards of directors of the various railroad and other public service corporations.

Prior to the passage of the Granger Laws and the establishment of State commissions, the railroad companies were prone to claim that they were entitled to conduct their business without interference by the State; that it was essentially as private in its nature as any other business, amenable only to the restraints of the common law as interpreted and applied by the courts. Although many of the laws enacted by legislatures during the Granger irritation were annulled as unconstitutional, the decisions of the courts clearly established the right of the States, from whom the railroads derived their corporate existence, to regulate that existence even to the extent of prescribing specific charges for transportation.

When the thirteen colonies formed themselves into a nation, there was very little traffic between one colony and another. Under national solidarity it was inevitable that commerce should expand. The formation of through lines led to the increase of interstate traffic, and it had become dominant by the time of the Granger legislation. As competitive production, competitive distribution, and consequently long distance traffic increased, the courts displayed a tendency to subordinate the powers of the States to those of the Federal Government.

As the volume of interstate traffic became increasingly preponderant, the evils growing out of rate wars, rebates, and other discriminations arose in greatest measure from such traffic. Although the Supreme Court of the United States had held that there is a common law in force generally throughout the country to which interstate commercial transactions were subject, it had also declared that there is no definitive power inherent in a State to exercise jurisdiction over traffic between the States. This led to discussion as to means of regulating that traffic, a regulation which manifestly had to be Federal in its provision and in its administration.

In 1868 resolutions were presented in both the Senate and the House of Representatives opening inquiry as to the extent of Federal power and the expediency of Federal action in its exercise. A report presented to the House of Representatives in June of that year contended that under the Constitution the Congress had the fullest power of regulation and that in the course of time it assuredly would be obliged to exercise it. The financial depression of 1873 and the ensuing slackening of commerce forced the railroads to desperation in the fight for a sufficient share of traffic to maintain their respective existence, and, therefore, multiplied the evils of which the public complained. The regulation of the railroads in the conduct of interstate traffic became a problem of national importance. From time to time committees were appointed by the Congress, reports were rendered, bills were introduced, agitation became more acute. There was crystallization in the report rendered by the Cullom Committee to the Senate under date of January 18, 1886. This stated that the railroads of the United States had provided "the most efficient railway service and the lowest rates known in the world," but continued, "its recognized benefits have been attained at the cost of the most unwarranted discriminations, and its effect has been to build up the strong at the expense of the weak, to give the large dealer an advantage over the small trader, to make capital count for more than individual credit and enterprise, to concentrate business at great commercial centers, to necessitate combinations and aggregations of capital, to foster monopoly, to encourage the growth and extend the influence of corporate power, and to throw the control of the commerce of the country more and more into the hands of the few." This quotation very concisely expresses the general public sentiment that had been taking form from the time the evils of unrestrained railroad competition began to have perceptible effect upon the shippers, but it contains no recognition of the deleterious effects of that unrestrained competition upon the

fortunes of the railroads, or of the difficulties that continually enhanced the perplexity of the railroad managers who were endeavoring, and not without a degree of success, to themselves work out a solution of the problems.

The great influence which the causes of complaint against railroad management, as enumerated in this report, have had upon subsequent Federal legislation leads to their reproduction here.

THE CAUSES OF COMPLAINT AGAINST THE RAILROAD SYSTEM :

1. That local rates were unreasonably high, compared with through rates.

2. That both local and through rates were unreasonably high at noncompeting points, either from the absence of competition or in consequence of pooling agreements that restricted its operation.

3. That rates were established without apparent regard to the actual cost of the service performed, and are based largely on "what the traffic will bear."

4. That unjustifiable discriminations were constantly made between individuals in the rates charged for like service under similar circumstances.

5. That improper discriminations were made between articles of freight and branches of business of a like character, and between different quantities of the same class of freight.

6. That unreasonable discriminations were made between localities similarly situated.

7. That the effect of the prevailing policy of railroad management was, by an elaborate system of secret special rates, rebates, drawbacks, and concessions, to foster monopoly, to enrich favored shippers, and to prevent free competition in many lines of trade in which the item of transportation is an important factor.

8. That such favoritism and secrecy introduced an

element of uncertainty into legitimate business that greatly retarded the development of our industries and commerce.

9. That the secret cutting of rates and the sudden fluctuations that constantly took place were demoralizing to all business except that of a purely speculative character, and frequently occasioned great injustice and heavy losses.

10. That, in the absence of national and uniform legislation, the railroads were able, by various devices, to avoid their responsibility as carriers, especially on shipments over more than one road, or from one State to another, and that shippers found great difficulty in recovering damages for the loss of property or for injury thereto.

11. That railroads refused to be bound by their own contracts, and arbitrarily collected large sums in the shape of overcharges, in addition to the rates agreed upon at the time of shipment.

12. That railroads often refused to recognize or be responsible for the acts of dishonest agents acting under their authority.

13. That the common law failed to afford a remedy for such grievances, and that in cases of dispute the shipper was compelled to submit to the decision of the railroad manager or pool commissioner, or run the risk of incurring further losses by greater discriminations.

14. That the differences in the classifications in use in various parts of the country, and sometimes for shipments over the same roads in different directions, were a fruitful source of misunderstandings, and were often made a means of extortion.

15. That a privileged class was created by the granting of passes, and that the cost of the passenger service was largely increased by the extent of this abuse.

16. That the capitalization and bonded indebtedness of the roads largely exceeded the actual cost of their construction or their present value, and that unreasonable

rates were charged in the effort to pay dividends on watered stock and interest on bonds improperly issued.

17. That railroad corporations had improperly engaged in lines of business entirely distinct from that of transportation, and that undue advantages had been afforded to business enterprises in which railroad officials were interested.

18. That the management of the railroad business was extravagant and wasteful, and that a needless tax was imposed upon the shipping and traveling public by the unnecessary expenditure of large sums in the maintenance of a costly force of agents engaged in a reckless strife for competitive business.

It will be perceived that these causes of complaint, the substantial justice of nearly every one of which was generally admitted by the railroad managers, failed to express the perplexing conditions with which those managers had to contend.

In connection with this enumeration of complaints should be weighed the luminous report made by its Committee on Transportation to the American Economic Association in 1887. In commenting upon the foregoing list of complaints it says: "Many of these charges, even where they relate to serious evils and are undoubtedly true, involve, of course, no moral turpitude on the part of railroad authorities, as many people seem to think. Railroad officials are much like other men, and act very much as other men would act under like circumstances. . . . The evils of our present railroad management are, in other words, to a large extent, the result of carelessness, shortsightedness, and selfishness of the American people, and particularly of its representatives, and they will not disappear until the opposite of these qualities are exercised by our legislators."

The Cullom report called attention to the fact that nearly all of the enumerated complaints were based upon one or another form of discrimination, the respective justice and injustice of which was difficult of determination. It states that, fairly construed and applied, the

practice of charging "what the traffic will bear" does not work injustice. It urges the desirability of a classification uniform for the United States; states that while the unfairness of the greater charge for a short than for a longer distance is apparent, the absolute abolition of the practice would deprive the country of many rates beneficial to its commerce; declares in favor of the publicity of rates. This report specifically pronounces against the prohibition of pooling, stating that "The evils to be attributed to pooling are not those which most need correction, and, if agreements between carriers should prove necessary to the success of a system of established and public rates, it would seem wiser to permit such agreements rather than by prohibiting them to render the enforcement and maintenance of agreed rates impracticable."

Beginning with 1878 numerous bills offered in one or the other House of Congress failed of passage, but finally after long discussion in both Houses, there was enacted a measure based primarily upon the report of the Cullom Committee. That measure, which became effective April 5, 1887, was entitled, "An Act to Regulate Commerce," and is the original Interstate Commerce Law.

In the discussion that preceded its passage, the railroad managers of the country generally participated, some of them opposing any form of Federal legislation; while others antagonized particular propositions only. That some sort of Federal legislation was desirable was admitted by the ablest men in the railroad world; by none more candidly than by Albert Fink and George R. Blanchard, pre-eminent authorities whose utterances commanded wide respect.

Albert Fink, a practical and successful railroad manager and eminent railroad economist, as chairman of the Southern Railway and Steamship Association, and later as Commissioner of the Trunk Line Association, had been the dominant factor in the attempts to bring about harmony between the competing railroads and between the railroads and their patrons. By reason of command-

ing ability and unblemished character his efforts were effective in high degree, but were never entirely successful, largely because the agreements effected between competing railroads had no legal standing and could not be enforced by legal process. This led Mr. Fink finally to retire in disappointment from the field upon which he has left an ineffaceable impression.

CHAPTER XVII

THE INTERPRETATION OF THE INTER- STATE COMMERCE LAW

THE original Interstate Commerce Act applies to traffic by rail from one State to another, or to a foreign country. As enacted, and amended in some minor respects in 1889, it provided that charges for such transportation shall be reasonable and just; that the charges for similar and contemporaneous services must be the same to all persons; that no common carrier shall make or give any undue preference to any person, commodity or place; that every common carrier shall afford equal facilities for the interchange of traffic with connecting lines; that it shall be unlawful to charge more for the shorter than for the longer distance over the same line in the same direction under substantially similar circumstances and conditions, with the exception of such cases in which the Commission may authorize exceptions; that any contract, agreement, or combination for the pooling of freight or earnings is unlawful; that tariffs must be filed with the Commission and posted for public inspection; that no advance in rates be made except upon ten days' notice and no reductions except upon three days' notice; that there must be no intentional interruption to the through carriage of freight; that a common carrier shall be liable for damages to any person because of violation of the Interstate Commerce Act; provides that any officer or agent of a carrier violating the Act shall be subject to a fine of not to exceed \$5,000 for each offense, and, in addition, if the offense be an unlawful discrimination in charge for transportation, shall be liable to two years' imprisonment; that any person benefiting by such unlawful discrimination, either with the connivance of a carrier or through false representation

without such connivance, shall be liable to similar fine and imprisonment; that the officers of a railroad may be compelled to testify and produce books, and the Commission is given the power of subpoena, but it is specified that self-incriminatory evidence must not be used in the prosecution of the person giving it.

These are the principal specifications that affect the freight service. Their main purport is to definitely apply to interstate traffic the common law, which theretofore had been the recourse only of the individual States, and in consequence definitely applicable to intrastate traffic only. The Act provides mechanism for court procedure in case the carrier refuses to comply with an order of the Commission.

The proscription of pooling, however, found no root in the common law, was in defiance of the recommendation of the Cullom Committee, and of the ablest minds engaged in either the law or traffic. That the prohibition of pooling would inevitably lead to the amalgamation of competing railroads was clearly pointed out at the time, particularly by Professor Seligman, who said in an article in the *Political Science Quarterly* for September, 1887: "The abolition of pooling would, in fact, hasten the very result which it is desired to avoid. . . . Remove the guarantee of allotted percentages and it is simply a question of time before the weaker roads are driven to the wall and then bought out by their more sturdy competitors." The inclusion of this prohibition in the Act was in response to a strong popular demand. Its unwisdom before many years was acknowledged by the gentleman who at that time was the chief opponent of the railroads in Congress. Its repeal has subsequently been urged by the Chairman of the Interstate Commerce Commission.

It will be perceived that the law does not confer upon the Interstate Commerce Commission the power to designate a specific rate and make it effective. A scrutiny of the debates in both Houses of Congress will disclose that there was no intention to confer such power. Sen-

ator Cullom, the chairman of the committee which conducted the investigation which led to the formulation of the bill, and of the committee which reported it to the Senate, explicitly says that it was not purposed to confer such power.

The members of the Interstate Commerce Commission at the time of its inauguration were of exceptional ability. Their mental attitude toward the questions that came before the Commission was, however, more nearly allied to that of the great body of the people than to that of the economists who had given careful study to the principles that must necessarily underlie the adjustment of rates, or than to that of the Justices of the Supreme Court, who are sworn to uphold the Constitution of the United States.

The questions of greatest importance that were first brought before the Commission, and perhaps the questions underlying the complaints of greatest importance submitted to it during the entire reach of its existence, concern the interpretation of the long and short haul clause of the law. As stated in the preceding pages, the east and west lines in the Trunk Line and Central Traffic Association Territory, and in greatest number the lines between Chicago, St. Louis and the Missouri River, placed the strictest interpretation upon this clause and adjusted their tariffs in entire conformity with that interpretation. In the South the railroads, beset in every direction and on every side with water competition, foresaw that they would be obliged to (1) reduce all of their rates to the level of the water-forced rates, and therefore, probably be impelled into bankruptcy; (2) increase the water-forced rates to the level of their normal tariffs, and, therefore, be deprived of the revenue accruing from such traffic as was carried in competition with the waterways, which course would probably impel them into bankruptcy, or (3) stand their ground and endeavor to justify the tariffs in effect, before the Commission or, as a last resort, before the courts. The lines serving the Pacific Coast in the transportation of transcontinental

traffic were in a similar predicament. Telegrams from the traffic officers of the lines serving these regions at once poured in upon the Commission asking relief, under the powers conferred upon the Commission, from the absolute observance of this clause. In some instances these requests were granted; in others the Commission awaited the presentation of complaints, which were not long in coming.

Complaint from the San Bernardino Board of Trade that the rates from the East to San Bernardino were higher than to Los Angeles, brought forth an order of the Commission that they should be reduced to not exceed the rate to Los Angeles. In certain other cases the Commission held that market conditions and the competition of carriers were not sufficient to justify a higher charge for the short than for the long haul. It was overruled, however, in one case after another brought to the test of the court. In one case the court said: "Shall the millions invested in railroads to afford to the State great systems of transportation result in their ruin? Shall Government undertake the impossible but injurious task of making the commercial advantages of one place equal to those of another? It might as well attempt to equalize the intellectual powers of its people." In reversing the Commission's decision in the Summerville Hay case the Supreme Court held that the railroads were of their own initiative justified in charging more for the shorter than for the longer haul wherever dissimilar circumstances existed. That is, under the adjudication of the Supreme Court the railroads were themselves allowed to be the judges of dissimilar conditions, and as to whether they warranted higher charge for the shorter than for the longer distance, the court holding that such dissimilar conditions might be caused by the competition of waterways, or the competition of carriers by rail. The judgment of a railroad in any particular case was, of course, subject to test by complaint to the Commission.

In the typical complaints involving alleged discrimination between localities the Commission was scarcely more

happy in its decisions. Its order that the rate on screened coal from the fields of western Kentucky to Nashville be the same as to Memphis, and be not higher in the winter than in the summer, was overruled by the court, which stated that the discrimination between summer and winter rates was beneficial not only to the railroads but to the public.

When the Chamber of Commerce of Minneapolis complained that because of its shorter distance it should have lower rates from the grain fields of the Dakotas than Duluth, the Commission upheld its protest, but when shortly afterward Milwaukee and LaCrosse, competitors of Minneapolis upon the south, sought for similar advantages because of their proximity to grain fields for the product of which they competed with Minneapolis, the latter city feared to press its claim in the former case to its logical conclusion.

In the celebrated Danville case it was found that the rates on various merchandise from points on and to the north and west of the Ohio River by the direct lines to Richmond and Lynchburg were very low because those lines had to compete with the low Trunk Line rates to Baltimore. The charges, however, via the southerly and roundabout line from the Ohio River to Danville, a point south of Lynchburg, were maintained at rates made by adding to the short line rates to Lynchburg the local rates back to Danville. Such a rate was applied to Danville over the same line that, although roundabout, carried traffic through Danville to Lynchburg at the short line rate to that city. Similar conditions applied to rates from the Southwest to these cities and on tobacco from Danville to the West. Upon complaint the Commission ordered reductions in the differences between the Danville and the Lynchburg rates, but was overruled by the Circuit Court and the Circuit Court of Appeals. The case was then appealed to the Supreme Court, but subsequently dismissed on motion of the Commission.

The import rates case was of great moment. To attract vessels to their ports in order to have facilities

for the export of grain, the railroads leading from Philadelphia, Baltimore, and New Orleans frequently made through rates on the inbound merchandise carried by those vessels far lower than their rates from the same ports on domestic merchandise of the same type. The Commission decided that this was a discrimination by the railroads between similar kinds of traffic, which resulted to the disadvantage of the domestic producer. In reversing this decision the Supreme Court said:

"The effort of the Commission by a rigid general order to deprive the inland consumers of the advantage of through rates, and thus give the advantage to the traders of the large seaboard cities, seems to create the very mischief which it was one of the objects of the Act to remedy.

"As we have already said, it could not be supposed that Congress, in regulating commerce, would intend to forbid or destroy an existing branch of commerce of value to the common carriers and to the consumers within the United States. Clearly, express language must be used in the Act to justify such a supposition. . . . It is self-evident that many cases may and do arise where, although the object of the carriers is to secure traffic for their own purposes, and upon their own lines, yet, nevertheless, the very fact that they seek by the charges they make to secure it operates to the interest of the public.

"That if the Commission, instead of confining its action to redressing, upon complaint made by some particular shipper, firm, corporation, or locality, some specified disregard by the common carrier of the provisions of the Act, proposes to promulgate general orders which thereby become rules of action to the carrying companies, the spirit and letter of the Act require that such orders should have in view the purpose of promoting and facilitating commerce and the welfare of all to be affected, as well the carriers as the traders and consumers of the country.

"The mere fact that the disparity between the through and local rates was considerable did not of itself warrant the court in finding that such disparity constituted an undue discrimination."

Conspicuous among the complaints involving the relation of rates are the Freight Bureau Cases. Competition between the lines penetrating the Southeast from the Ohio River and those extending along the Atlantic seaboard had so intensified that shipments from the East

were being taken over the Alleghany Mountains by the Trunk Lines, and then into the Southeast by way of Cincinnati and Louisville, while, conversely, shipments from the West were being hauled over the Alleghany Mountains and thence into the Southeast by the Atlantic coast lines. To prevent this circuitous competition, which evidently was wasteful, the southern railroads had formed an agreement to so apply their rates that the products of the East would be carried into the South by the seaboard lines, and that the products of the West would be carried into the South by the Ohio River lines. At the time this agreement was made the shipments originating in the East were principally of manufactures, and those originating in the West principally of foodstuffs. The agreement did not, as supposed under a widespread misunderstanding, specifically delimit the channels of foodstuffs and of manufactured products into the Southeast. The amount of the established rates was not a factor in nor specified in the agreement. Cincinnati, Louisville, Chicago, and St. Louis, as they developed in manufacturing, protested against their higher rates on such merchandise, which they alleged handicapped them in reaching the southern markets in competition with the manufacturers of the North Atlantic seaboard. The Interstate Commerce Commission, upholding this contention, ordered a sweeping readjustment of rates from Chicago and Cincinnati and other points in the Middle West, naming specific rates to apply to certain principal southern cities, and notifying the railroads to make proportionate readjustment to other southern points.

Although the power to prescribe and make specific rates had not been granted to the Commission by the Interstate Commerce Law, the Commission had often assumed that power. Its orders naming specific rates were in some cases obeyed by the railroads, and in other cases ignored. Although the courts had intimated that it did not possess such power, the matter had not been pressed to an issue until the Commission rendered this

order in the Freight Bureau Cases, which would have reduced practically all the rates of the lines leading south from the Ohio River. The matter was carried to the Supreme Court, which definitely and finally declared that Congress had not delegated the rate-making power to the Commission. The decision of the Court contains the following:

"It is one thing to inquire whether rates which have been charged are unreasonable—that is a judicial act—but an entirely different thing to prescribe rates for the future—that is a legislative act.

"It will be seen in this case that the Interstate Commerce Commission assumed the right to prescribe rates which should control in the future . . . so that if the power exists, as it is claimed, there would be no escape from the conclusion that it would be within the discretion of the Commission, of its own motion, to suggest that interstate rates on all roads were unjust and unreasonable, notify the several roads of such opinion, direct a hearing, and upon such hearing make a general order reaching to every road, and covering every rate. . . . The power itself is so vast and comprehensive, so largely affecting the rights of carriers and shippers, as well as indirectly all commercial transactions, that no just rule of construction would tolerate such a grant of power by mere implication."

The few cases to which reference has been made in this chapter have been selected as indicating the varying interpretations placed by the Commission and the courts upon the salient features of the Interstate Commerce Law. It is noteworthy that there was not a case of the first magnitude involving the intrinsic reasonableness of a specific rate; that is, its reasonableness *per se* apart from its relation to other rates.

Numerous decisions were rendered by the Commission in cases arising out of complaints not so far reaching in importance which were almost invariably observed by the railroads. These, together with its rulings in other respects, tended toward the formulation of a body of case made law concerning charges for transportation and practices connected therewith. These decisions, in large part, are the crystallization in definite expression

of customs arising out of the railroad development, which, with a greater or less degree of uniformity, the railroads had come to observe themselves. In the first era of the Commission's existence, which may be said to embrace the ten years from the enactment of the original law to the decision in the Freight Bureau Cases, not one of the great basic—but to the popular mind incomprehensible and unjustifiable—usages of the railroads in adjusting rates had been overthrown. The Commission's interpretation of the long and short haul clause had been overruled by the Supreme Court; as had its decision forbidding lower rates on import than on domestic traffic of the same kind; as well as certain of its decisions in cases of complaint as to discrimination, the Supreme Court considering the effect of the alleged discriminatory practices upon the entire population rather than upon a particular class or classes thereof. This Court finally declared, what was really evident from the beginning, that the Commission had not the power to prescribe a specific rate.

A noteworthy decision of the Commission, pertaining to a contention, frequently made by large shippers, and at times by railroad companies, that a lower charge is justifiable on larger than on smaller shipments of freight because of the analogy to the lower prices obtained by wholesale than by retail purchasers of merchandise, was rendered by Judge Cooley, its first chairman, in 1887. In the case that brought forth the decision a railroad company had allowed a discount of 10 per cent. on 30,000 tons, but it appeared that there was only one of several dealers competing in the region in question who could make a shipment of that quantity. The decision included the statement that "a railroad company, if allowed to do so, might in this way hand over the whole trade along its road to a single dealer, for it might at law make a discount equal to or greater than the ordinary profit in trade, and competition by those who would not get the discount would then be out of the question." It is evident that a discrimination in favor of a large

shipper can in some cases be justified because of a difference in the cost of service, it being recognized that the cost of transporting a large shipment in a solid trainload from one place of shipment to one destination is less and often very much less than that of transporting smaller shipments and under other conditions. There is an obvious difference between according lower than ordinary rates, because of a large shipment transported in a solid trainload, and shipments of the same aggregate transported during a given period by regular trains under normal procedure. In the former case there is great saving to the railroad because the cars do not have to be drilled, assorted and shifted, either at the starting point, en route, or at the destination; the loading and unloading expenses are less, and there is less of clerical routine. Large shipments, throughout a more or less extended period, no portion of which may be carried at any less expense than an equal quantity of merchandise on the same train for a shipper whose aggregate shipments are less, afford no such reason for a lower rate. The Commission has ruled against discrimination either in the one case or the other. As remarked in Judson on Interstate Commerce, "The really controlling consideration is that of *public policy* in this refusal to apply the analogy of wholesale and retail sales to freight rates. It is because the power to discriminate in favor of a large shipper, whatever the business inducement, is necessarily injurious to business competitors who cannot make such shipments, and therefore tends to monopoly." It is further to be remarked that, since the chaos in freight rates that was characteristic of the score of years immediately succeeding the Civil War, cuts in rates and rebates have resulted very largely from the pressure of large shippers, who have contended that they should have lower rates simply because of shipments great in quantity, and have used their power of diverting such shipments from one route to another as a means to obtain such lower rates.

The debates in Congress, preceding its enactment and

the Interstate Commerce Law itself, clearly demonstrate that a prime, if not the foremost, purpose for which the act was passed, and the Commission created, was the stopping and prevention of rebates. Toward this end the Commission accomplished substantially nothing during the first fifteen years of its existence. The mere fact that rebates were prohibited by the law led to their practical cessation during the two or three years after its enactment, but when it became evident to shippers and railroads that the Commission was not engaged in that vigorous and continuous investigation and prosecution prescribed by the law, the giving and receiving of rebates were resumed, and increased. In its Third Annual Report the Commission admitted its duty to prosecute for such offenses, but stated that action had been deferred because of more important duties, among which it considered to be the laying down of general rules. As was to be expected, that condition developed which led to the statement in its Fourth Annual Report that rebates were open and notorious. Its record for the next twelve years is practically devoid of achievement toward annihilating what was admittedly the most serious abuse in railroad administration.

CHAPTER XVIII

FURTHER DEVELOPMENTS IN PUBLIC SENTIMENT AND LEGISLATION

ALTHOUGH the Interstate Commerce Law provided that a rate, to be effective, must be regularly filed and duly posted, thus becoming the lawful rate which should be applied to all shipments, nothing in the law prohibited the charge of a lower rate by one than by another railroad. It was possible for a road to reduce a rate upon three days' notice to the Commission, and without other notice save the posting on a bulletin board at a station, which could be so managed that the chances were against its being seen by a representative of a competing road. There was nothing to prevent a railroad company agreeing with a shipper to place a reduced rate in effect upon a specified day, thus enabling the shipper to purchase large quantities of the specified commodity in advance of the public notice of the rate agreed upon. When the shipper was ready he would advise the railroad company, which would give the Interstate Commerce Commission telegraphic notice of the rate to be made effective, and duly post it. The effect upon the market had, of course, been anticipated by the favored shipper, and the rate was withdrawn as soon as notice could be given after his consignment had been forwarded. This device was known as the "midnight tariff."

Pooling agreements, the instrumentalities through which the railroads had been working toward the abolition of rate cutting, having been abolished by the Interstate Commerce Act, the only instrument that remained for the maintenance of rates between rival lines was the traffic agreement. This the principal railroad companies endeavored to strengthen. The scope of the traffic associations was broadened, their administration was im-

proved, new safeguards were placed around the promulgation of rates, and new methods adopted for their maintenance. The working out of these plans, in connection with the restraining influence exercised by the Commission from the first, led toward a general rate equilibrium, to an approximation to stability of the traffic status that had been unknown during the period of unrestrained competition. In line with this tendency was the general prosperity of the country. With an abundance of traffic offering there was the less temptation to the cutting of rates. Moreover, it had become recognized that the excessive building of railroads had been a main cause of the unsettled condition of the previous years: many kinds of financial manipulation had been so widely exposed that their repetition was difficult. The restrictions of the law, however, were irksome to the longer and weaker railroads, who had only such differential rates as might be awarded by the traffic associations to protect them in obtaining a share of competitive traffic, instead of being assured definite proportions of competitive traffic as under the award of the pools.

While the wiser minds were becoming outspoken in favor of the restoration of pooling agreements, with the proviso that they be given full publicity and be sanctioned by the Interstate Commerce Commission before becoming operative, the opinion of the public in general was still strongly adverse to pools, and its aversion was strengthened by a tendency toward the amalgamation of competing industrial establishments.

The years of depression following the panic of 1873, as drastic in their effect upon the industrial and commercial interests of the country as upon the instrumentalities of transportation, had brought home to many the evils of unrestrained competition. Trusts were being succeeded by combinations and amalgamations. To the greater part of the community, which still pinned its whole faith to the half truth contained in the maxim that competition is the life of trade, this was a movement that, under the utmost integrity and circumspection of

conduct, would have been abhorrent, every procedure that savored of combination being regarded as a step in the line of that concentration which ends in monopoly. This, together with the fact that the shaping of certain of these combinations was neither honest nor circumspect, caused a great wave of popular antagonism that culminated in the anti-trust law of 1890.

Under this Act, "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal."

Suit was brought under this Act for the dissolution of the Trans-Missouri Freight Association. It was strongly urged that the Act did not apply to railroads, inasmuch as when the measure was under consideration in the House of Representatives, that body had rejected an amendment making it so applicable, and inasmuch as the Act, when finally passed, contained no such amendment. In its decision the Supreme Court was divided with that approximation to exactness which is possible in the division of nine by two. Four of the nine Justices held that even with this statute in effect, the contract forming the Trans-Missouri Freight Association was "valid under the general law," maintaining that a distinction should be made between contracts imposing reasonable restraints, and those that impose unreasonable restraints. The five Justices, who rendered the opinion of the Court, stated that "Looking simply at the history of the bill from the time when it was introduced in the Senate until it was finally passed, it would be impossible to say what were the opinions of a majority of the members of each House in relation to the meaning of the bill," and that they were forced to determine its meaning "from the language used therein," and that, therefore, the expression "*every* contract in restraint of trade" admitted of no distinction as to the character of the restraint, but set aside the general law and revoked the established rule of interpretation. The opinion adds that if the law is not correct in its phraseology,

"Congress is the body to amend it." This interpretation disintegrated the Trans-Missouri Freight Association. In a subsequent suit, brought at the instance of the Interstate Commerce Commission, the Joint Traffic Association was likewise disestablished; and, of course, by implication the other traffic associations of the country. The Interstate Commerce Commission, however, called attention to the fact that while the decision of the Court prevented agreements as to rates, it did not prevent the continuance of the associations for the purpose of forming continuous through lines, determining the division of through rates, and discussion as to methods and procedure in various matters pertaining to traffic. The Joint Traffic and other associations have continued in existence in the performance of these functions. It is also widely known that at their conferences, after discussion as to what rates should apply in a particular case, each of the traffic officers states to the conference what rate his company will file, publish and apply in the premises.

The railroads have been no more disgruntled by the application of the Anti-Trust Act to their agreements than was the Interstate Commerce Commission by the judicial decisions overruling its interpretation of the long and short haul clause, its order in the import rate cases, and the declaration that it had no power to prescribe a specific rate. It regarded the latter declaration, in particular, as depriving it in large measure of the power necessary to make its decisions effective. In prosecution for rebates the Commission also declared itself hampered by that provision of the Interstate Commerce Law as originally enacted, which, while giving it the power of subpoena, and authorizing it to compel the attendance of witnesses and the production of books and records, exempted any witness from giving testimony that might be self-incriminative. Inasmuch as the giving of a rebate was, as a rule, so zealously guarded that no one but the railroad officer granting, the shipper receiving, and, perhaps, one or two confidential clerks of

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each, would know of the transaction, and no one of these could be compelled to testify against himself, the judicial establishment of a case of rebating was difficult, to say the least. It also complained that the railroad companies, to belittle the Commission, often withheld evidence from a hearing instituted by it, which they subsequently presented to the Courts, thereby giving the case a different aspect.

The sections of the original Act providing penalties for its violation and giving the Commission power as to inquiry were variously amended in 1889, in 1891, and in 1893, respectively, extending the scope of violations, making it the duty of the District Attorney to conduct prosecution, and more specifically providing for the summoning of witnesses. The amendment of 1895 provided that a witness could be compelled to give self-incriminating testimony, but that he could not be prosecuted or subjected to any penalty because of any matter concerning which he might testify. These amendments gave the Commission wide powers in the investigation and prosecution for rebates. In its report for 1896 the Commission stated that the ruling of the Supreme Court in 1894, in *Brown vs. Walker*, confirmed its power and authority to obtain any desired information. It continued, however, to devote its energies in other directions than in the investigation and prosecution of offenders against the important provision of the Interstate Commerce Law penalizing rebates and other secret discriminations, the enforcement of which clearly devolved upon the Commission.

A still more effective enactment against rebates was made by the Elkins Act of 1903. Under its provisions not only the officers and agents, but the railroad corporation itself, is liable for prosecution. Inasmuch as a corporation cannot be imprisoned, and incidentally because the penalty of imprisonment had been regarded as so onerous that it could not be enforced, that penalty was abolished, but the maximum fine for each offense was increased to \$20,000. The published tariff was

made the standard of lawfulness, and departure therefrom declared a misdemeanor; prosecution was facilitated and jurisdiction extended. This amendment was hailed by legislators and railroad officers, and praised by the Interstate Commerce Commission in its Annual Report as the most satisfactory and practicable measure against rate cutting, rebate giving and the kindred specified misdemeanors that had yet been enacted. It was generally conceded that if this enactment were fully enforced, if investigations were thoroughly conducted and prosecutions vigorously made under its provisions, the cutting of rates and the giving of rebates must cease. The Commission, however, instituted no proceedings, even under this law, until it was prodded into doing so by the railroads themselves.

In the ten years that preceded the enactment of the Elkins amendment, the economic relations of the railroads to the industry and commerce of the country had passed through various phases. In an earlier paragraph of this chapter it was stated that the increase of traffic, the restraints upon railroad extension, and the salutary effect of the Interstate Commerce Law, had resulted in an approach to rate equilibrium and approximation to general stability of the traffic status. This condition was radically changed by the business depression that followed the panic of 1893, and by the demonstrated unwillingness of the Interstate Commerce Commission to effectively proceed against rate cutting and rebate giving. During the depression the volume of shipments underwent such violent reduction that the railroads were again obliged to struggle for sufficient traffic to keep their cars and locomotives even partly employed, and to provide revenue sufficient to keep them from bankruptcy. That they were not entirely successful is shown by the fact that in 1894 nearly one-third of the railroad mileage of the country was in the hands of receivers.

As the markets waned the revenue of the railroads was further diminished through the necessity of aiding shippers who sought reductions in the transportation

charge to enable them to continue in the manufacture and distribution of products for which there was a falling demand at lowering prices. On every hand the railroads acceded to these requests: the cause of the shippers was their cause. The primal principle that the transportation charge has to be so adjusted that commodities may find a market was not arrested by their waning revenue. In some cases concessions were made by open reductions in rates; in others commodities were reduced from a higher to a lower class: in a far greater number special commodity rates were made on various materials and products to meet the exigencies of the times: there was an increase of rebates because of the disinclination of the railroads to openly reduce rates affecting the currents of commerce in the great channels of traffic. The depression in business, in general, was at its lowest ebb in 1897, but the pressure upon the freight rates continued until, in 1899, the average rate per ton per mile was lower than at any other time in the history of the country. Although repeated statements that the rate disturbances and rebate giving had produced as great demoralization at this as at any previous time are doubtless exaggerated, it is beyond question that the demoralization was deep and widespread. Throughout this period of depression a principal use of sidetracks was for the storage of freight cars, which were idle by the thousands; locomotives by the hundreds were dead in roundhouses; the forces of railroad employees were reduced of necessity to a minimum; the prevailing sentiment was of gloom, and public expression was almost of despair. Manufacturers and merchants of vast experience were a unit in saying that the productive instrumentalities of the country had developed to a capacity far in excess of its consumption for many years to come; the Houses of Congress were filled with imprecations against the pauper labor of Europe that was taking the bread of life from the mouths of American workingmen, and reputable magazines printed articles setting forth the danger to American industry from the yellow

peril of the Orient. Under these conditions it is small wonder that no one charged with railroad administration gave his mind to the extension of track, to the provision of additional freight cars and new locomotives. Any railroad manager advocating such procedure would have been universally denounced as a lunatic. No railroad company, by any possibility, could have secured new capital wherewith to carry out such plans. In 1898 came a very substantial improvement in business; denuded markets demanded replenishment: the wheels of industry began to move. In 1899 mills and mines were booming, good crops for which there was great demand gave high stimulus to commerce, the formation then well under way of the great industrial combinations betokened a degree of industrial prosperity not before known. This period of unwonted industrial and commercial activity continued, except for a slight reaction in 1903, with accelerating pace until the collapse of 1907.

Within two years from the lowest ebb of traffic the railroads found their tracks and equipment fully occupied, and the necessity for vast increases in their forces. They endeavored to do away with rebates, to abolish many of the special commodity rates that had been conceded to meet the exigencies of poor markets, and finally, because of the rising prices that beset them, attempted, in 1900, to obtain certain advances in rates that all railroad men believed had been forced to too low a level by the violent pressure to which they had been subjected for many years. This attempt met with widespread and organized opposition on the part of shippers, and was but partly successful.

The tendency toward railroad amalgamation, evident since the abolition of pooling and traffic agreements, received impetus because of the industrial amalgamations. The power that a large shipper had always possessed to compel a railroad to make concessions by the threat of diverting his traffic to a rival line became all the more pronounced when this power was concentrated in the hands of the few representatives of the great corpora-

tions that were dominant in each line of industry. No one railroad had ever been willing to take the initiative toward resisting the aggressions of the great shippers. If in a meeting of traffic officers the representative of one road would suggest the curtailment of a privilege or an advance in rates affecting a great staple of commerce, the principal shippers of that commodity were almost certain to learn of it and direct reprisals against the railroad whose representative manifested such temerity.

The amalgamation of different railroads, that had been predicted when pooling was abolished by the Interstate Commerce Law, proceeded upon an enlarged scale. To the solid front of the great shippers seeking rate concessions the railroads found it necessary to present a compact line. This led to the purchase by one railroad company of the stock and securities of another, and the appearance of the same men as directors on the boards of competing companies. This plan, designated as the "Community of Interests," in great measure accomplished its purpose. The cutting of rates was practically obliterated. The giving of rebates was almost entirely abolished. The credit for this achievement belongs to Alexander J. Cassatt in higher degree than to any other one man. As General Manager and then as Vice-President of the Pennsylvania Railroad Company, during the period of chaotic competition that brought the "Pool" into being, he became entirely familiar with the pressure that the great shippers brought to bear upon the railroads for rebates, and with the vulnerability of the railroads, especially the longer and weaker lines, to their onslaughts. During the seventeen years of exemption from the burdens of routine administration, he remained as a director of his company in touch with the progress of events, and conceived and matured the far-reaching plans which he proceeded to work out when he returned to the active service of the Pennsylvania Railroad in 1899 as its President. This was the very time when the extension of the industrial amalgamations gave warning

of the increasing power of their managers to force the railroads to their terms, and when, as a result of the intervening legislation, the practice of rebating had become vicious because no longer general, but special, and no longer done as a matter of course, but secretly and carefully concealed. With the great resources at his command, interests sufficient to give a voice in the management were purchased in the Baltimore & Ohio, Chesapeake & Ohio, and Norfolk & Western Railroads, lines extending to the North Atlantic seaboard. The co-operation of the New York Central lines was next secured. It was then announced that rebates would no longer be accorded to any shipper, no matter how important. The larger shippers, accustomed for many years to concessions, the extent of which they had often dictated themselves, could not believe that the new policy would apply to them. The Carnegie Steel Company, in particular, was rebellious, vigorously endeavoring to break through the ramparts with threats of various reprisals. It finally did divert, in so far as was possible, the tremendous tonnage of the company to other than the Pennsylvania lines, which were able to sustain the loss because of the increase of traffic resulting from the development of business in general. Mr. Carnegie then threatened to build another railroad to the seaboard, but Mr. Cassatt did not yield to the attacks of Mr. Carnegie, the Carnegie Steel Company, or of any other of the great shippers who had come to believe the receiving of rebates from the railroads to be a vested right. The giving of rebates, which the Interstate Commerce Commission apparently, during the twelve years of its life, had not broken down, was thus brought toward an end in Trunk Line territory by the determined action of one man, a railroad president, notwithstanding that all interests, government, industrial and railroad, had come to think it impossible that business could be successfully carried forward and developed save on the long established lines of rate concessions, which had been considered analogous to protective tariffs, bounties,

land grants, exemptions from taxation and other well-known forms of industrial stimulant. Eminent as was Mr. Cassatt as an engineer and administrator, this was his greatest achievement.

The results of the Community of Interests were attained through peaceful methods, and were beneficial not only to the transportation companies, but to the industrial and commercial interests of the entire United States.

To prevent the resort to secret discriminations, even during a period of commercial depression, the railroads concerned in the movement were largely instrumental in formulating and urging the enactment of the Elkins Law.

The mounting traffic of the era of unprecedented prosperity had, however, begun to overwhelm the railroads. There were not nearly enough cars, not nearly enough locomotives; there was a lack of adequate yards and other facilities at division and main terminals. The car factories and locomotive factories were inundated with orders, and, although they turned out new equipment with great rapidity, remained a year and in some instances two years behind with their orders. The congestion of traffic became so appalling that nearly every person, from the manager of the great steel company who could not obtain adequate cars for the shipment of his product, and whose fuel and ore were woefully delayed in transit; from the farmer whose grain was deteriorating in the field because the railroads could not supply the requisite cars, or whose fruits for a like reason were rotting in the orchards, to the clerk whose consignment of household goods had lain on a sidetrack for weeks, had a grievance against the railroads that was wont to form the burden of his conversation. Throughout this period of congestion railroad managers, superintendents, train despatchers, yard masters, engine men and train men were working as never before. Not only were engine men and train men kept at their posts often for twenty and twenty-four hours at a stretch, but managers and superintendents remained on duty both day

and night. Indeed, a difficulty with which the railroads were severely beset was that of obtaining trained and responsible employees in sufficient number. Especially in the industrial centers of the East the great mills began to take many of their best employees from railroad companies at wages higher than the latter could afford to pay. One example is of a great steel manufacturing company that went to each of the yard offices of one of the busiest subdivisions of a great railroad and offered each yard clerk, regardless of the salary he was getting from the railroad, an advance of \$20 per month if he would leave its service for that of the steel company.

The revenues of the railroad companies increased—not nearly, however, in such an advancing ratio as those of the manufacturing establishments or of the farmers, who were blessed with successive seasons of plentiful crops. Inasmuch as their shortcomings affected the mine operator, the manufacturer, the merchant and the farmer, the railroads were subjected to castigation that fell from every mouth: unavoidable defects in service were denounced as the outcome of malicious dereliction. The railroad managers could not but admit that they were caught unprepared for a rush of traffic, the volume of which it was beyond the range of the human mind to foresee. They did, however, indulge in one phase of recrimination. They urged that their freight yards and freight houses were blocked with freight which consignees did not promptly remove; that the owners of mills, factories and warehouses did not increase their storage facilities in anything like a commensurable ratio with the enlargement of their business, but used the cars of the railroads for storage, keeping them without unloading for unwonted periods. Indeed, at the height of a season of intense car shortage they pointed out that over 45,000 cars were held for unreasonable lengths of time by shippers and consignees at various places on the Atlantic seaboard from Boston to Norfolk; that at this time the railroads of the country, as a whole, had only about 71 per cent. of their cars available for transportation service; that the facilities of the railroads were

being used by shippers and consignees for their own purposes; that cars had ceased to be units of freight operation to become warehouses, elevators and store houses. At that time the general manager of a railroad reported that its freight cars were moving to but twelve and one-half per cent. of their capacity; that if this could be increased to but twenty per cent. there would be no car shortage.

The increasing revenues of the railroad companies having been made the subject of especial reference by the Interstate Commerce Commission, the United States Senate, in 1903, asked the Interstate Commerce Commission to make a report showing the effect of changes in rates or changes in classifications upon the revenues of the railroad companies during 1900, 1901, 1902, and 1903, as compared with the gross and net revenues that would have been derived by them under the rates and freight classifications in force during the fiscal year ending June 30th, 1899; and to also report the changes in cost of operation and maintenance of said railways for said years. In its report the Commission did not include estimates as to the effect of the changes upon net revenues, or figures showing the changes in the cost of operation and maintenance. It confined itself to comparing the earnings of the year 1903 with those for the year 1899, which were at the lowest average rate per ton per mile ever received in the United States, the lowest ebb to which freight rates had been forced by the depression following the panic of 1893. This report, known as Senate Document No. 257, issued April 7, 1904, states that the railroads collected \$155,475,502 more freight revenue in 1903 than if the rates of 1899 had been continued in effect. The railroads at once pointed out that this aggregate had been based upon incorrect premises, notwithstanding that the correct data was in the Commission's possession. Upon these, under the method of calculation followed in Document No. 257, the increase would have been \$98,047,874. The railroads also showed that the Commission had used the ton as the measure of traffic movement, instead of the

ton mile as is customary. The ton mile is a unit derived from both weight and distance, while the ton ignores distance, which varied 3.07 per cent. per ton carried, between 1899 and 1903. Upon the basis of the ton mileage the amount of revenue accruing to the railroads, in 1903, was increased but \$67,556,299 because of the increase in the average rate over that of 1899. Had the Commission fully responded to the request of the Senate by including the changes in cost of operation and maintenance, it would have reported that the operating expenses for 1903 had increased \$391,551,484, an amount nearly six times as much as that derived by the railroads from the increase in rates. In using 1899 as the basis of its calculation, the Commission did not disclose the fact that had it used any year prior to the depression, or even the year 1894, the average rate would have been higher than that of which complaint was made as applying to 1903.

CHAPTER XIX

PUBLIC SENTIMENT AND THE HEPBURN BILL

THE enactment of the Interstate Commerce Law did not elicit as large a number of specific complaints as to rates as might have been expected in view of the bitterness of feeling against the railroads prior to its adoption. From the creation of the Interstate Commerce Commission on February 4, 1887, to December, 1904, it had received 4,012 complaints. Of these 3,223 were informal and settled by the mediation of the Commission without formal proceedings of any kind. Of the 789 cases made the subject of formal complaint, nearly one-half were settled by agreement, or by withdrawal. Of the 297 formal decisions rendered in this seventeen years and ten months, many of which embraced two or more complaints, 194, or 65 per cent., were decided in favor of the complainants, the remaining 35 per cent. having been dismissed. In but forty-five of the cases in which the decision was against the defendants did the railroads refuse or neglect to obey the Commission's order. This number includes the cases in which the decisions of the Commission were reversed by the courts.

For several years, with the exception of the resistance to the advance attempted by the railroads in 1900, the matter of railroad rates had attracted no general attention, and was not at all prominent in public discussions until the presentation by the Commission of Senate Document No. 257. This was given publication over the entire country, and inflamed the indignation that had been caused by the unsatisfactory service of the railroads during the period of traffic congestion. The idea that the railroads were not only failing in the performance of transportation, but that they were also obtaining

increased payment for inferior service, roused the popular mind to a fury that was fed by the direct amalgamation of many railroads and the working out of the Community of Interest plan in connection with others. The matter was the subject of newspaper comment far and wide, and of discussion by public speakers. Feeling ran so high that numerous bills were introduced at the ensuing session of Congress, one of which, the Esch-Townsend Bill, was passed in the Spring of 1905, practically without consideration, but with substantial unanimity by the House of Representatives. This bill gave vastly increased powers to the Interstate Commerce Commission. Indeed, according to the analyses made by able lawyers, it would have given the Commission well nigh absolute power over the "rates, regulations, and practices" of the railroads. The Senate referred the bill to its Committee on Interstate Commerce, which, at sessions extending over several weeks, examined prominent lawyers, shippers, and railroad officers as to the probable effect of the bill, and as to various phases of the transportation question. At the following session of Congress, convening in December, 1905, a new bill was introduced in the House of Representatives by W. P. Hepburn, Congressman from Iowa, which, with some modifications, was adopted by the House and formed the subject of a momentous debate that consumed a great portion of the time of the Senate throughout the session. That body introduced several amendments, and the bill as finally modified was passed and approved June 29, taking effect August 28, 1906.

It provides:

(a) That as "common carriers" under the Interstate Commerce Law shall be included companies transporting oil by pipe lines, express companies, sleeping car companies, all switches, tracks, terminal facilities, and that "transportation," under the law shall include all cars regardless of their ownership, and all service in transit.

(b) Prohibits the issue of passes, with certain specified exceptions that cover mainly employees, either direct

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or collateral, and for religious and charitable purposes; fixing a penalty in case of violation that shall apply to both the giver and the recipient.

(c) Made it unlawful after May 1st, 1908, for any railroad company to transport in interstate traffic for sale, any commodities in which it may have a proprietary interest, except lumber and its products.

(d) Provides that a common carrier shall provide, when practicable, and upon reasonable terms, a switch connection for any applicant who shall furnish sufficient business to justify its operation.

(e) Makes more explicit the specification as to the filing of tariffs, especially providing for the posting and filing of through tariffs, and the acceptance of the through rates quoted in such tariffs by such carriers as participate therein; fixing penalty for violation.

(f) Provides that "every person or corporation, whether carrier or shipper, who shall knowingly offer, grant, give or solicit, or accept, or receive rebates, concession or discrimination, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than one thousand or more than twenty thousand dollars." Moreover, any person, whether officer or director, agent or employee, convicted of such misdemeanor, "shall be liable to imprisonment in the penitentiary for a term not exceeding two years, or both fine and imprisonment in the discretion of the court."

In addition, the acceptor of any rebate shall forfeit to the United States three times the amount of the rebate.

(g) Provides for the publication of the reports and the decisions of the Commission and their acceptance as evidence.

(h) Empowers the Commission, if upon complaint it finds that a rate, or any regulation or practice affecting a rate, is "unjust or unreasonable, or unjustly discriminatory, or unduly preferential, or prejudicial," to determine and prescribe a maximum rate to be charged

thereafter, and modify the regulation or practice pertaining thereto. This includes the prescription of a through rate and the apportionment thereof between the carriers parties thereto. Orders of the Commission shall take effect in not less than thirty days and continue in force not exceeding two years, unless suspended or set aside by the Commission or a court of competent jurisdiction.

(i) Empowers the Commission to award damages against a carrier in favor of a complainant.

(j) Provides for forfeit to the United States, in case of neglect to obey an order of the Commission, in the sum of five thousand dollars for each offense, each violation and each day of its continuance to be deemed a separate offense.

(k) Empowers the Commission to apply to a circuit court for the enforcement of its order, other than for the payment of money; for the appeal by either party to the Supreme Court of the United States; and that no order of the Commission shall be suspended or restrained, except on hearing, after not less than five days' notice to the Commission. The ultimate jurisdiction of the Court is, therefore, specifically stated.

(l) Provides for the rehearing by the Commission, upon application, at its discretion.

(m) Authorizes the Commission to require annual reports from all common carriers, that shall contain specified information; to prescribe the form of any and all accounts, records and memoranda to be kept by carriers, making it unlawful for the carriers to keep any other accounts, records, or memoranda than those prescribed and approved by the Commission; provides that all accounts of the carriers shall be open to the inspection of the special agents, or examiners employed by the Commission.

(n) Provides that a common carrier issuing a through bill of lading shall be responsible for loss, damage or injury to the property covered thereby upon the lines of any company over which it may pass, leaving

it to the line issuing the way-bill to gain recovery from another line upon which the loss, damage, or injury may have occurred.

(o) Enlarges the Interstate Commerce Commission from five to seven members, with terms of seven years, increasing the salary from seven thousand five hundred to ten thousand dollars per annum.

During the several months preceding the convening of this session of Congress a heated nation-wide discussion focused upon the abuses for which the railroads were held responsible, and the measures necessary for their remedy. While there were many accusations as to exorbitant freight rates, they were, as a rule, vague, and the railroads claimed, without foundation. Through their chosen representative the railroads besought Congress to strengthen the law against rebates if it could do so, but added that if fully enforced the Elkins law of 1903 would make rebates impossible; that if rebates were still being given, the fault lay with the Interstate Commerce Commission for not availing of the authority conferred upon it under this and preceding laws. Under this prodding the Commission took steps, beginning in 1905 and continuing throughout the next two years or more, which resulted in the detection, prosecution, and punishment of many offenders in this respect. It is noteworthy that these prosecutions and convictions were without exception made under the Elkins law and not under the Hepburn law, which restored the penalty of imprisonment. It was evident that there was a widespread popular confusion of ideas as to cut rates and rebates, it being commonly accepted that if the Commission were empowered to prescribe a specific rate, such prescription would prevent rebates, although there is really no direct connection between the two different things.

The conflict raged with special bitterness around the proposition to confer upon the Interstate Commerce Commission the power to prescribe a specific rate from which there should be no appeal. Although widely mis-

represented at the time, it can be most positively stated that Samuel Spencer, the railroad president chosen by the railroads of the country to voice their views, did not protest against the authority to fix—in case of complaint—a rate to substitute that complained of. He did oppose the conferring of that authority without appeal, stating that to do this would be to give the Commission absolute and despotic power. Although doubtless under the Constitution the right to appeal would lie from an order of the Commission, a lengthy debate was waged in the Senate as to whether that right of appeal should be written in the bill; it was finally so written.

The status of the Commission was radically changed, in that it was given the power to prescribe a specific rate, and to make that rate effective within thirty days “unless suspended or set aside by the Commission or a court of competent jurisdiction.” The effect of this is to place the burden of court procedure upon the railroad company if it desires to contest the rate. Under the original Interstate Commerce Act the burden of court procedure, in case a railroad company did not comply with its order, rested upon the Commission.

That portion of the Hepburn amendment making it unlawful for any railroad company to transport for sale any commodities in which it may have a proprietary interest, was declared unconstitutional by the Circuit Court of the United States for the Eastern District of Pennsylvania at its April session, 1908, and was then appealed to the Supreme Court of the United States.

After the Hepburn law had taken effect, the Interstate Commerce Commission publicly stated that the railroads of the country were manifesting a commendable desire to observe the law and to co-operate with the Commission in its application.

Inasmuch as the authority to definitely supersede a rate complained of and to make its decision effective was conferred upon the Interstate Commerce Commission by the Hepburn Act, it is difficult to conceive otherwise than that whatever grievances had been withheld from

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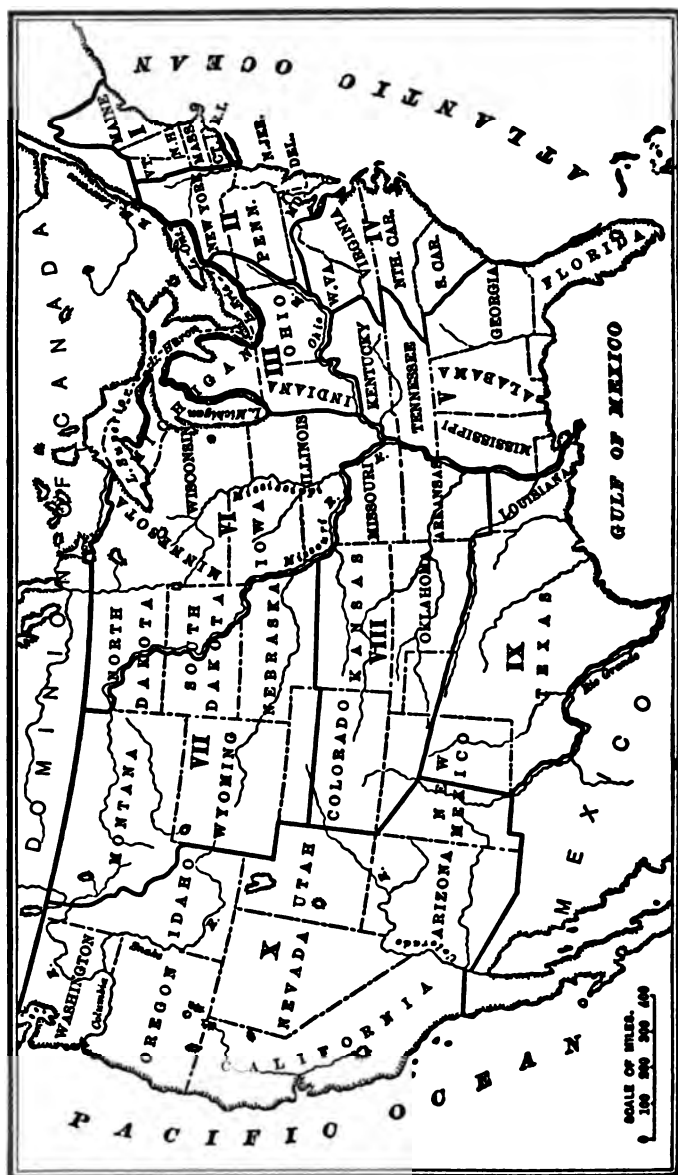
the Interstate Commerce Commission, because of doubt of the power of that body to make effective redress for the past and to provide effective remedy for the future, would be presented to the Commission as soon after the taking effect of the Hepburn Act as they could be formulated. It may be fair to assume that by the close of the calendar year succeeding that in which the Hepburn law took effect, that is, during the sixteen months from August 29, 1906, to December 31, 1907, all of the long standing grievances would have been formulated and presented to the Commission, as well as any new complaints that may have been especially developed by the new law. In this period 5,952 complaints were filed with the Commission, a greater number than had been presented during its entire previous existence. Of this number 2,105 were of matters not coming within the jurisdiction of the body, mostly querulous complaints from this person and that person in regard to this thing and that. Of the remaining 3,847 complaints, 3,374 were informal and 473 formal.

The complaints designated as informal are taken up by the Commission with the railroad companies by correspondence and adjusted without a set hearing. They principally pertain to cases of oversight, clerical errors, misconstruction of tariffs, misrouting, and overcharges of one kind and another. Many of these complaints are of the same nature as those directly adjusted by the railroad companies before the taking effect of the Hepburn law, just as the adjusting bureau of a large department store settles similar matters with its customers. The strict interpretation of what constitutes a rebate has, however, led the railroads to be very chary of making allowance for any sort of overcharge and refunding money. It is, therefore, at this time often their preference, even when the law does not compel, that such complaints go to the Commission, and that refunds be made only upon orders issued by it. Of the 3,374 informal complaints entered and recorded during the sixteen months, approximately one-half were adjusted by the

carriers after correspondence by the Commission, and approximately one-half were dismissed by the Commission for lack of cause. An order to reduce rates or to modify any practice or to promulgate any principle cannot be made upon informal complaint. Such action can only be taken by the Commission upon a formal complaint, involving formal reply by the defendant, a set hearing with the examination of witnesses on both sides, and usually the submission of oral arguments or briefs, or both, by the complainant and the defendant.

The actual effectiveness of the Hepburn law, in redressing grievances as to freight rates and remedying maladjustments in the freight rate structure, in so far as it can be measured by the complaints of the first sixteen months, their nature and their disposition, must, therefore, rest upon the complaints designated as formal. The 490 days constituting the period covered by the filing of the 473 formal complaints brings the average of a trifle under one a day. Of this total twenty-five were against express and sleeping car companies, or were in regard to passenger fares, or for other reasons not within the scope of the present consideration of rates of freight and matters pertaining directly to the transportation of freight. Of the remaining 448, thirteen have been classed as miscellaneous. Of these eight are in reality not complaints, but docket numbers given by the Commission, for convenience of reference and filing, to proceedings instituted by it. These numbers cover the investigations, correspondence, and evidence as to rates, practices, accounts, and revenue; car shortage; consolidations and combinations; underbilling and misrepresentation of freight; the alleged purchase and sale of commodities by express companies. Ten of the remaining 435 complaints are as to freight classification. They apply respectively to roller letter copiers, cement burial vaults, wall paper, oil, wire brushes and brooms, wire coat hooks, coal tar, cement, multigraphs and hay.

These complaints are of trifling importance, except that on hay. The advance of this commodity from the



TERRITORIAL GROUPS OF THE UNITED STATES, ADOPTED BY THE INTERSTATE COMMERCE COMMISSION FOR THE COMPILATION OF RAILWAY STATISTICS

sixth to the fifth class of the official classification on January 1, 1900, was immediately protested, but the courts decided that the Commission did not have authority to order a change in classification. The complaint was presented anew on July 17, 1907. At the suggestion of the Commission a conference was held between representatives of the National Hay Association and representatives of the railroads between the Mississippi River and the Atlantic seaboard. The railroads presented statistics showing that for 1907 they had carried 25,000 cars of hay, averaging 11.3 tons per car, yielding average earnings per car of \$16.77; while they had hauled 60,000 cars of grain, averaging 27.8 tons per car, yielding average earnings per car of \$32.16. The average haul per car of hay was 167.4 miles, and the average earnings per car per mile were 10 cents; while the average haul per car of grain was 304.7 miles, and the average earnings per car 10.5 cents per mile. At this conference it developed that the Hay Association desired concessions in methods of handling rather than in rates.

The remaining 425 complaints are classified in the following tables as to the commodities to which they pertain, and as to the territorial group in which they arose. Their disposition is shown as of April 11, 1908, the last day that could be taken into consideration when the docket of the Commission was examined, but subsequent decisions are indicated in the text. In a number of cases a decision covering more than one point has been partly in favor of the complainant and partly in favor of the defendant. All such are listed in the tables as decided in favor of the complainant. To make a distinction between complaints that are important and those that are unimportant is not always easy. Sporadic complaints made by individuals, complaints that affect the transportation charge on but one or a few scattering shipments, or that affect the transportation charge between stations that are not in a principal channel of traffic, may, however, be classed as unimportant. Complaints affecting a wide distribution of any com-

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modity, in regard to a rate that applies in a main traffic channel, or in relation to a considerable movement of a commodity of importance, may be classed as important. The complaints thus defined as unimportant form by far the greater portion even of those designated as formal. Under each table it will be endeavored to indicate the complaints that are important.

Foodstuffs (see Table I).—The complaints as to grain and grain products in Group II are chiefly on flour from Buffalo to New York, Boston, and Providence, made by the Buffalo millers, who asserted that they were handicapped by the competition of the mills of the Northwest. The Commission ordered reductions of 1 and 2 cents per 100 pounds. The complaints in Group VIII have arisen out of the disturbance caused by the shifting of the grain currents to the Gulf from Kansas, Oklahoma, and Missouri. The Commission made several readjustments by reducing rates from 2 to 5 cents per 100 pounds from various points in these States to the Gulf ports. (See page 124.)

The live stock complaints in Group VIII are principally requests for refund, because certain through rates were higher than could be made upon a local rate established for a short time to meet peculiar conditions. These were dismissed by the Commission. Others are petitions for reparation because certain railroads contesting an order of the Commission have not reduced certain rates specified therein.

The complaints as to dairy products in Group VI are as to a general increase of rates on cream to creameries in Iowa, Illinois, Nebraska, Colorado, Missouri, Oklahoma, and Wyoming. The large creamery companies besiege the railroads for low long distance rates that they may gather cream from wide areas. The local creameries protest against such rates being granted, stating that the large creamery companies are using unfair means to drive them out of business. The Commission decided that both the corporate and local creameries are essential to the butter supply of the country and es-

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tablished lower than local rates that the corporate creameries may draw cream from wide areas.

The complaints as to fruits and vegetables in Group V are largely as to peaches to the North from various points in Georgia, as to the rates on citrus fruits from Florida to the North in competition with similar fruits from California, and as to the rates on vegetables in competition with the vegetables from Mississippi and Louisiana. The Commission found the rates on oranges and pineapples to be reasonable, except that it established certain carload rates to the Northeast. It reduced certain rates on vegetables to the northeastern markets, but found other rates on fruits and vegetables to the cities of the Northeast and north of the Ohio River to be reasonable.

Miscellaneous Raw Materials (see Table I).—No one of these complaints is of more than minor importance. It is especially noteworthy that cotton, the great staple of the South, produces but two complaints, both of which were dismissed. That in Group V is as to the rates from Lorman, Miss., to New Orleans and to Boston as compared with the rates from Port Gibson, a trifling matter that was adjusted and set aside. The complaint in Group VIII is as to the rates on raw cotton from points in Texas, and Oklahoma, to Kansas City, as compared with the rates on cotton fabrics; but the Commission held that the existing rates were not unreasonable.

Miscellaneous Manufactures (see Table II).—The only complaint of passing importance was caused by different rates being charged on different kinds of brick. The Commission ordered that rates on firebrick, building brick and paving brick be the same, stating that from a transportation standpoint the value of the brick or the purpose for which it would be used would not be considered. This decision is contrary to the widely applied principle of charging according to the value of the service which, in the case of other commodities, has been directly recognized by the Commission. The brick manufac-

TABLE II		STATUS APRIL 11, 1908.														
		TERRITORIAL GROUPS.										Decided in favor of Complainant	Dismissed, withdrawn or indefinitely postponed	Adjusted or compromised and withdrawn	Not Decided.	
		I	II	III	IV	V	VI	VII	VIII	IX	X					Total.
MISCELLANEOUS MANUFACTURES.		0	0	0	0	0	5	0	0	0	0	10	1	6	0	3
Cotton Piece Goods.....		0	0	0	0	5	0	0	0	0	0	3	0	0	0	3
Boots and Shoes.....		0	0	0	0	3	0	0	0	0	0	2	0	0	0	2
Furniture.....		0	0	0	0	2	0	0	0	0	0	5	1	4	0	0
Iron and Steel Articles..		0	0	0	0	0	0	0	0	0	4	5	3	0	0	2
Brick.....		0	1	0	1	1	0	2	0	0	0	5	3	8	4	10
*Various Products.....		0	7	4	1	2	5	0	10	1	2	32	10	8	4	20
Totals.....		0	8	5	1	13	6	0	17	1	6	57	15	18	4	
LUMBER, COAL AND OIL.																
Lumber.....		0	2	0	2	9	3	0	8	5	8	37	3	7	9	18
Coal.....		0	3	4	3	3	1	1	21	2	0	38	9	14	3	12
Oil.....		0	0	3	0	0	3	0	5	1	0	12	0	2	4	6
Totals.....		0	5	7	5	12	7	1	34	8	8	87	12	23	16	36

* Cement, Fruit Jars, Household Goods, Nitrate of Soda, Agricultural Implements, Naphtha Soap, Staves, Iron, Pyrites, Window Glass, Glassware, Books, Camera, Camera Stands, Bicycles, Motor Cycles, Brass Beds, Denatured Alcohol, Rope, Chemical Plant Machinery, Sash and Doors, Print Paper, Brimstone, Gilsomite, Burlap Bags, Linseed Oil, Linseed Oil Cake, Ground Flaxseed, Grass Twine, Matting and Rugs, Masurite, Earth Paint, Wall Plaster.

turer, who was the complainant in the particular case that brought forth this decision, subsequently protested that it worked injustice to his business and the case was opened for further argument. An example of the application of the principle which the decision in this case ignored is that which arose in Indiana at the time of the waning of natural gas in the district to which glass and tinplate factories had been attracted by the presence of this fuel. These industries made an exposition to the railroads showing that they would not be obliged to remove to other locations if they could obtain coal to take the place of the disappearing natural gas. The price which they could afford to pay, however, would necessitate the transportation charge being materially reduced. The railroads, to enable the factories to continue in operation, that they might obtain the traffic in their finished products and in the supplies used by the communities dependent upon them, materially reduced the rate upon coal for their consumption without reducing the rates upon the same coal from the same fields to the retail dealers who sell it for domestic consumption or to the companies operating the trolley and electric light lines. The latter consumers at once made complaint, but the Indiana State Railroad Commission finally upheld the discrimination on the part of the railroads as justifiable.

The complaints as to the rates on cotton piece goods in Group VIII are from merchants of Wichita, who seek concessions that will enable them to extend their wholesale markets. The two complaints as to rates on furniture are from a new factory in Mississippi that desires to extend its markets.

Lumber, Coal, and Oil (see Table II).—Lumber is really the only article of commerce upon which the rates of freight are in turmoil. The rapidly changing sources of supply, necessitating a continual readjustment of the freight rate structure, will account in a great measure for this instability.

Although substantially the same number of complaints

Railroad Freight Rates

TABLE III

STATUS APRIL 11, 1908.

ANIMAL FOODS.	TERRITORIAL GROUPS.										Decided in favor of Complainant	Dismissed, withdrawn or indefinitely postponed.	Adjusted or compromised and withdrawn.	Not Decided.
	I	II	III	IV	V	VI	VII	VIII	IX	X				
Hay and Straw.....	0	0	0	0	0	0	0	4	0	0	4	0	2	1
Poultry Food.....	0	0	0	0	0	0	0	0	1	0	1	0	1	0
Totals.....	0	0	0	0	0	0	0	4	1	0	5	0	3	1
THROUGH ROUTES AND THROUGH RATES.														
Coal and Coke.....	0	0	0	1	0	1	0	0	0	0	2	1	0	0
Livestock.....	0	0	0	0	0	0	0	0	2	0	2	1	1	0
Lumber.....	0	0	0	0	0	0	1	0	1	0	2	0	0	0
Oil.....	0	1	0	0	0	0	0	0	0	0	1	0	0	0
Fish.....	0	1	0	0	0	0	0	0	0	0	1	0	0	0
Between Steam Road and Electric Road.....	0	0	0	0	0	2	0	0	0	0	2	1	0	0
Cotton Seed.....	0	0	0	0	0	0	0	1	0	0	1	0	0	0
Totals.....	0	2	0	1	0	3	0	2	2	1	11	2	1	1

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have developed on coal as on lumber, they have not nearly so great an effect upon the coal rate structure, as a whole. Certain mines in Maryland claim that they are charged a higher rate to the seaboard than certain other mines in Pennsylvania which are farther away. The Commission ruled that a lower rate should be applied on thin vein than on thick vein coal from the same district or even the same mine. Exception is taken in Group III to as high a rate on cannel coal as on ordinary bituminous coal. Several complaints in Group VIII have arisen from the rapidly shifting competition of coal fields in this region. One dealer complains that a reduction of 50 cents per ton, made during July and August to stimulate shipment and storage during the dull season, discriminates against the small dealers, as the dealer with capital can accumulate coal at this rate which he can sell at a later period at 50 cents a ton lower than the man whose capital will only permit him to purchase coal for immediate sale.

The complaints as to the rates on oil are of the National Petroleum Association, and applied as to the rates in general on petroleum and its products, especially in the region north of the Ohio and east of the Missouri Rivers. They were dismissed by the Commission as being too sweeping, not sufficient evidence being presented to enable it to pass upon any specific rate.

Animal Foods (see Table III).—The complaints on hay are as to the rates on that commodity from various points in Kansas to Kansas City.

Through Routes and Through Rates (see Table III).—The one case of interest is that of the electric railway company, which endeavors to establish through rates and through routes in connection with a steam railroad. The Commission ordered one of the railroads extending to the Hudson River to stop discriminating in favor of the Standard Oil Company by refusing to take oil in tank cars from Titusville to Brooklyn. The railroad claimed that, as the oil had to be delivered direct from the cars, its handling at that terminal was exceedingly hazardous and has appealed the case.

Railroad Freight Rates

STATUS APRIL 11, 1908.															
TABLE IV INCIDENTAL SERV- ICE.	TERRITORIAL GROUPS.										Decided in favor of Complainant	Dismissed, withdrawn or indefinitely postponed	Adjusted or compromised and withdrawn.	Not Decided.	
	I	II	III	IV	V	VI	VII	VIII	IX	X					Total.
Car Distribution.....	0	6	8	1	3	3	2	6	0	1	30	3	5	2	20
Side Tracks and Connect- ing Tracks.....	0	2	0	1	0	0	1	2	0	0	6	1	2	2	1
Switching Service and Charges.....	0	6	0	0	1	7	0	21	0	0	35	4	11	0	20
Elevator Service, Stor- age, etc.....	0	0	0	0	1	2	3	5	0	0	11	1	5	0	5
Re-consignment Privi- leges and Charges....	0	0	2	0	0	0	1	5	0	0	8	0	1	1	6
Milling in Transit.....	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1
Change of Station Lo- cation.....	0	0	0	0	0	0	0	3	0	0	3	0	2	1	0
Weights, Minimum Car- load and Estimated....	0	1	2	0	1	3	0	3	1	0	11	4	5	2	0
Cotton Compression....	0	0	0	0	1	0	0	1	2	0	4	1	3	0	0
Miscellaneous.....	0	2	3	0	1	1	0	1	0	0	8	1	3	0	4
Totals.....	0	17	15	2	8	16	7	48	3	1	117	15	37	8	57

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Incidental Service (see Table IV).—Bituminous coal is not taken from the mines unless there are railroad cars at the mine-mouth to receive it. The operation of a bituminous coal mine is, therefore, dependent upon its supply of coal cars. The equitable distribution of the available cars among the mines in a district is, therefore, of utmost importance to the operators, who jealously watch the number of cars obtained by their competitors. There are points at issue as to what constitutes an equitable distribution. One is, as to whether the cars assigned by a railway company to be loaded with fuel for the consumption of its locomotives should be deducted from the total number of cars before apportionment is made among the various mines. Another is as to whether the cars owned by a coal company should be included in the total number apportioned among the mines. These questions are submitted to the Commission in the complaints which are tabulated above, as well as complaints of discrimination for one reason or another against this mine and in favor of that mine. A frequent cause of these complaints is that the proprietary interest which a railroad company may have in mines along its lines leads the owners of other mines to be peculiarly suspicious of discrimination in the distribution of cars.

A singular question as to car distribution arose in the citrus fruit regions of California. The commission merchants desired that the basis of distribution of available cars be the fruit held in different storehouses. The fruit growers, desiring to ship direct to the markets, insisted that the basis of distribution be the fruit available for shipment in the groves. After a lengthy investigation and the taking of much testimony the Commission arrived at the foregone conclusion that a rigid and inflexible rule was not desirable, thereby leaving the matter as it was.

The complaints as to switching charges in Group VI are principally petitions for reparation because the switching charge on livestock at Chicago has not been

reduced from \$2 to \$1 a car, as ordered by the Commission, the railroads protesting that the order is unjust.

St. Louis complains that, whereas the railroads make an allowance of three-fourths of a cent per 100 pounds for elevator service at Omaha, Atchison, and Kansas City, they make no such allowance at St. Louis, that city, therefore, being discriminated against to this extent in the aggregate rate on through shipments. This complaint grew out of a long-standing inequality, the elevation charge having been allowed at certain cities, while not at others. In the case of grain transshipped through two markets, at each of which allowance was made for elevation, the burden bore especially upon a competing dealer whose grain passed through but one market. For example, the elevation allowance at both Omaha and Chicago, on grain passing through each of those markets in succession, would give the dealers the great advantage of two allowances for elevation, whereas, grain passing through but one primary market, Kansas City, perhaps, would carry but one elevation allowance. The railroads found the matter difficult of adjustment, but it has been settled by the Commission, which has ordered the abolition of this charge at all of the grain markets. (See page 182.)

There is also complaint as to the charge of 2 cents per 100 pounds on hay, reconsigned at East St. Louis, to points in the Southeast.

To obtain carload rates upon less than carload shipments consigned for export by various shippers, an export company was formed to assemble such shipments in Chicago and send them to New York in carload lots. The railroads claim that the carload rate on mixed carload lots applies only to merchandise owned by one consignor and shipped to one consignee, hence the matter was placed before the Commission, which ruled, but without unanimity, that the practice of the export company was permissible. The Circuit Court of the United States in the New York District decided against this ruling, sustaining the position of the railroad companies.

Community Complaints (see Table V).—In every one of these community complaints it is the endeavor of a community to obtain lower rates in competition with a rival community. The nature of the specific complaints is disclosed in a subsequent chapter.

Recapitulation (see Table VI).—When the total number of complaints made during this sixteen months is compared with the total transactions between the shippers and the railroads of the United States, with the volume and variety of the traffic movements, their number and their importance dwindle into insignificance. When it is considered that there is not a mile over which grain and grain products are not shipped, that they flow from the great grain surplus States throughout the East and the South for consumption in every community, and for export both through the ports of the Atlantic and of the Gulf, that they also go throughout the West, along the Pacific Coast from Seattle to Los Angeles, the fact that there were but twenty-five formal complaints during the year and a third is a striking testimonial to the fairness of the grain rate structure as a whole.

If this comparison be followed throughout the tabulations—if the total number of formal complaints be compared with the volume of traffic in each commodity, with its ramifications and with the millions of rates that form the total freight rate structure of the country—it is a matter of surprise that the complaints should be so few.

The complaints as to rates on raw materials of manufacture are conspicuously scant. The slight importance of the complaints as to rates upon manufactured products *per se*, that is, that do not grow out of the complaints of communities in general, is exemplified by the fact that the commodities which are the subject of complaint are fewer than fifty in number, whereas, an enumeration of manufactured articles of all kinds would include three thousand or more items.

The list of community complaints is conspicuous by

TABLE V

STATUS APRIL 11, 1908.

COMMUNITY COM- PLAINTS.	TERRITORIAL GROUPS.										Decided in favor of Complainant	Dismissed, withdrawn or indefinitely postponed	Adjusted or compromised and withdrawn.	Not Decided.
	I	II	III	IV	V	VI	VII	VIII	IX	X				
Indianapolis, Ind.....	0	0	7	0	0	0	0	0	0	0	0	0	0	7
Union Springs, Ala.....	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Montgomery, Ala.....	0	0	0	0	3	0	0	0	0	0	0	0	0	3
McRae and Helena, Ga..	0	0	0	0	1	0	0	0	0	0	0	1	0	0
Moultrie, Ga.....	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Hattiesburg, Miss.....	0	0	0	0	3	0	0	0	0	0	0	0	0	3
New Orleans, La.....	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Sioux City, Iowa.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sioux Falls, Iowa.....	0	0	0	0	0	7	0	0	0	0	0	0	0	7
Des Moines, Iowa.....	0	0	0	0	0	4	0	0	0	0	0	0	0	4
Oshkosh, Wis.....	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Minneapolis, Minn.....	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Lincoln, Neb.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lead, S. D.....	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Kansas City, Mo.....	0	0	0	0	0	0	0	0	3	3	0	0	0	3
Denver, Colo.....	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Amarillo, Tex.....	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Dallas, Tex.....	0	0	0	0	0	0	0	0	1	1	0	0	0	2
El Paso, Tex.....	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Pecos, Tex.....	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Roswell, N. M.....	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Reno, Nev.....	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Santa Barbara, Cal.....	0	0	0	0	0	0	0	0	1	1	0	0	0	2
San Buena Ventura, Cal..	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Spokane, Wash.....	0	0	0	0	10	14	0	0	0	2	0	0	0	10
Totals.....	0	0	7	0	10	14	2	6	5	5	4	10	2	33

the absence of nearly all of the great commercial centers of the country. It includes Indianapolis, New Orleans, Minneapolis, Denver and Kansas City, but even in these cases, with the exception of Indianapolis, it is certain particular rates that are complained of and not the general rate structure affecting the commerce of the city. The list does not include Boston, New York, Philadelphia, Pittsburg, Baltimore, Richmond, Savannah, Atlanta, Cleveland, Cincinnati, Chicago, St. Louis, Galveston, San Francisco, Portland. It embraces a dozen or so of the smaller towns and cities of the South and West, but not one of the thousand or more towns of similar or greater importance in various parts of the country.

Throughout the tabulations the earlier developed regions of the North and East show the effect of the wars of rates and treaties of peace which led to the existing rate adjustments that are of great stability and give general satisfaction. The region from Maine to Illinois produced fewer than one-fifth of the total number of these complaints, although its railroads move more than one-half of the tonnage of the country. That Group VIII should have produced the greater portion of complaints is logical, as it includes the new State of Oklahoma and the surrounding States where activity in general is still at the boiling stage. Here the railways have been extended and intertwined in the last dozen years with a rapidity so great that the exact adaptation of their freight rates to the developing commerce of the region is still in process.

Although the total number of complaints in a way represents the measure of the grievance felt by the shippers against the railroads, it is the measure in which these complaints are adjudged to be well founded that more nearly tests their reasonableness. It is therefore significant that on April 11, 1908, of the formal complaints filed with the Commission during the sixteen months ending December 31, 1907, the number disposed of in favor of the defendant railroads exceeded by more than 33 per cent. the number decided in favor of the

TABLE VI

RECAPITULATION	TERRITORIAL GROUPS.										STATUS APRIL 11, 1908.			
											Decided in favor of Complainant	Dismissed, withdrawn or indefinitely postponed	Adjusted or compromised and withdrawn	Not Decided
	I	II	III	IV	V	VI	VII	VIII	IX	X	Total			
Foodstuffs	1	9	3	0	21	10	0	39	3	1	87	26	5	33
Miscellaneous Raw Material	2	0	0	0	2	1	0	6	1	0	12	6	1	3
Miscellaneous Manufactures	0	8	5	1	13	6	0	17	1	6	57	15	4	20
Lumber, Coal and Oil	0	5	7	5	12	7	1	34	8	8	87	12	16	36
Animal Foods	0	0	0	0	0	0	0	4	1	0	5	1	3	1
Through Routes & Rates	0	0	2	0	1	0	3	2	2	1	11	7	1	1
Community Complaints	0	0	7	0	10	14	2	6	5	5	49	4	2	33
Incidental Service	0	17	15	2	8	16	7	48	3	1	117	15	8	57
Totals	3	41	37	9	66	57	10	156	24	22	425	86	40	184
Classification.	Official, 6; Western, 3; Southern, 1										3	115	0	4
Miscellaneous											10	3		
Express and Sleeping Car Companies, Passenger Fares, etc.											13			
	Grand Total										473			

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complainants. If the same ratio of disposition holds throughout the cases not then decided, the greater part of the 425 complaints will have gone against the complainants. The considerable number of cases remaining undecided at the date of the examination indicates no lack of industry on the part of the Commission. The complaints listed in the tables are those entered upon the docket and not those submitted for decision. After the making of the complaint an extended period often unavoidably elapses before the hearings are held, the evidence and arguments presented, all of which constitute a necessary preliminary to the formal submission to the Commission for its decision. A great deal of the work is done not directly by members of the Commission, but by "special examiners," men of comparatively small salary, who are sent to different parts of the country to hear cases, and they often write the decisions, the Commissioners being so pressed with work that every case cannot fully receive their direct attention.

It is not intimated that the efficacy of the Commission as a tribunal for the adjustment of complaints between shippers and the carriers is disclosed in its entirety by the foregoing analysis. As an intermediary and conciliatory agency it brings about an agreement in many cases where there has been a difference of opinion before that difference assumes the character of a dispute. This analysis of the complaints made to the Commission during a fairly extended period in which there was every reason to expect that every formidable or longstanding disagreement would be presented to it, certainly does not indicate any radical fault in the freight rate structure of the railroads of the United States. Even when there is a difference between a shipper and a railroad as to what constitutes a proper rate, the margin of difference is usually narrow. These differences, when applied to all the shipments which they concern, may aggregate, in the course of a year, a large sum, and the sum total of the differences arising throughout a period of years

a sum that, although enormous, is an infinitesimal fraction of the aggregate payments made by all of the shippers to all of the railroads. The proportion borne by the complaints made to the Commission to the aggregate transactions between the shippers and the carriers is no more than the proportion borne by the cases that come before the justices of the peace to the conduct in general of the inhabitants of an orderly community. Even in an orderly community, however, it cannot be said that justices of the peace are not essential to its well-being. That there should be a tribunal to which a shipper may have recourse as a last resort goes without saying. Its very existence tends toward a diminution of injustice, to the exercise of greater care on the part of the transportation companies in adjusting their charges. A most useful function of the Commission, acting as an impartial body, has been to disabuse the mind of many a complainant that he had a real grievance. Another function of inestimable value to the railroads is that the Commission can settle a contention, such as not infrequently arises, wherein they are between the upper and the nether millstone of opposing interests, and powerless to effect an adjustment without bringing upon them the ill-will of one or the other party and often a consequent loss of revenue.

CHAPTER XX

THE INFLUENCE OF THE COMMISSION TOWARD UNIFORMITY OF PROCEDURE

THE SYSTEM OF ACCOUNTS

ALTHOUGH the main items of a balance sheet of one railroad company are necessarily very much the same as those of another, there is room for difference of opinion, sometimes even as to what constitutes an asset and what a liability, as to whether one amount is properly chargeable to profit and loss, or another to surplus. In that classification, whether of receipt or expenditure antecedent to the aggregation of similar accounts, there is often room for wide difference of opinion as to whether a given sum should be included in this account or that. The great number and variety of purposes for which a railroad company is obliged to expend money, and the great number and variety of sources from which it receives money, necessitate a great number and variety of main accounts, each divided into secondary accounts, which are subdivided into minor accounts, which are again subdivided. Both receipts and expenditures of even a comparatively short railroad are so large that unless the system of accounts be of logical construction and its keeping be subjected to thorough tests there is the opportunity for manipulation on the part of a skillful and unscrupulous accountant, which, in not its most objectionable aspect, may take the form of covering over illicit or surreptitious expenditures by their inclusion under accounts to which they bear no relation.

The separate development of the railroads of the United States led to a wide diversity in their accounting systems. Through the examination of experts at the demand of bankers whose offices have now and then been

invoked for the purpose of securing additional capital, or at times of reorganization, the accounting methods of at least the principal railroad systems have been brought into such form that serious manipulation is not facile, but it is difficult, without constant supervision, to prevent the possibility of the concealment of illegitimate expenditures.

From the time of its original organization, the Interstate Commerce Commission has insisted that the payment of rebates, or of commissions and gratuities to secure traffic, could not be absolutely prevented until all railroad companies were obliged to adhere to a uniform system of keeping accounts, and the Commission, through its authorized agents, was allowed to inspect those accounts. The Association of American Railway Accounting Officers, formed in 1888, throughout its various discussions has led toward uniformity in many phases of accounting, but it remained for the Hepburn law, authorizing the Commission to prescribe a uniform system of accounts and enforce its adoption, to bring about absolute uniformity. Immediately after the enactment of the law the Statistician of the Commission, in conjunction with the Association of Railway Accounting Officers, gave to the matter of a uniform system discussion and consideration which resulted in the adoption, on July 1, 1907, of an approximately complete accounting system which is now being perfected for use by all of the railroads of the United States.

There is one phase of the authorization of the Hepburn law and the action of the Commission thereunder with which the administrative officers of many of the railroads are not content. The Act specifies that not only shall the Commission prescribe a uniform system of accounts which shall be obligatory upon all of the railroads, but that no railroad shall keep any accounts or memoranda other than those prescribed by the Commission. These administrative officers state that an accounting system under which every item of receipt or of disbursement shall be so allocated that any erroneous

disposition may be detected, while it answers the original bookkeeping requirement of checking income and outgo and arriving at a knowledge of profit or loss and present worth, does not meet the purpose entailed upon a thoroughly comprehensive accounting system by the developments of recent years. With the extension of the railroads into large systems, each under centralized control, it has become impossible for any managing or directing officer to know by personal oversight that the various operations are properly and economically conducted throughout their minutiae. It is, therefore, necessary for him to have reports showing the application of material and labor for various purposes, showing the cost of each of various details of operation apportioned by units of this kind and that kind in order that expenditure for a specific purpose at one time may be compared with the expenditure for that same purpose at another time, in order that the expenditure on one division may be compared with the expenditure on another division, the efficiency of various officials in the economical performance of their functions thus being brought to definite record.

This is the statistical as contrasted with the bookkeeping phase of accounting. That is, the entries of receipts and expenditures are so arranged as to afford a test of the efficiency of operation and not alone to serve the primary purpose of an accounting system designed to see that all revenue due to a company is received by it, that disbursements are made only upon proper authority, and that the balance sheet is properly arrived at, which, alone, have been the points of interest to the Accounting Officers' Association and to the Commission. These administrative officers claim that not only is the statistical system still in process of development, but that different statistical records are needed by different railroads to meet peculiar conditions; and that a managing officer, in order to make use of statistics in the directions of greatest service to him, should be allowed to arrange and rearrange them as he may think will best suit his ends. In other words, they claim that,

as statistical systems have not, as yet, completely matured on any railroad, that as they need to be varied to meet peculiar conditions, and, above all, that as they are instruments in the hands of particular men, their variation to meet the requirements of those men is essential to furthering the development of efficient administration which would be hampered by the crystallization of statistics at this time along the lines of a prescribed and uniform code.

A UNIFORM CLASSIFICATION

The separate classifications, developed each for itself by the different railroads, were not the source of marked inconvenience during that period when there was little or no interchange of traffic. As through bills of lading were issued, and it became necessary to quote through rates of freight, it was a nuisance for an agent of one railroad to be obliged to trace an article on which a through rate was desired through the different classes to which it might be assigned by different railroads. Just prior to the enactment of the original Interstate Commerce Law there were over 130 different classifications in the territory east of the Mississippi and north of the Ohio Rivers. There were not only different classifications for different railroads, but an eastbound classification different from the westbound, and special classifications for use in different sections of this region. The ascertainment of through rates was about as perplexing an undertaking as was pecuniary adjustment in Central Europe in the days when there were approximately 100 different monetary systems in that region.

The insistence in the debates in Congress and on the part of the Interstate Commerce Commission that the inconvenience and possibilities of abuse growing out of this medley of classifications should be reduced, led the railroad companies operating in the great traffic sections to take steps toward the unification of the classifications. The 130 or more separate classifications in the Trunk Line and Central Traffic Territory were merged into

one, the Official Classification. In like manner the Southern Classification was arrived at for the railroads south of the Ohio and east of the Mississippi Rivers, and the Western Classification for the railroads west of Chicago and the Mississippi River.

The adoption of the three principal classifications vastly simplified the quoting of rates and the interchange of traffic between the railroads in the respective territory in which each classification was effective. There remained, however, a certain confusion in the ascertainment of rates and the through billing of traffic between the territory of one and the territory of another classification, and a perplexing variance in the incidental rules of the different classifications. These are still the source of annoyance, especially in the territory contiguous to a classification boundary. From parts of the State of Illinois, for instance, on traffic destined beyond the Mississippi River, an article has to be shipped either under the Official Classification to the river and the Western Classification beyond, or by way of exception one classification must apply from starting point to destination. In such cases, on traffic destined to a considerable distance beyond the river, the Western Classification is applied from the starting point. Likewise, on southbound traffic from some places in Ohio and Indiana the Southern Classification applies from the shipping points, and there are similar overlappings of the classifications at other places. At a commercial center on the boundary between classification areas there is the perplexity caused by the use of different classifications for shipments in different directions. For example, the freight agents of St. Louis use the Official Classification for eastbound, the Western Classification for westbound, the Southern Classification for southbound, and the Transcontinental Commodity Tariffs for Pacific Coast shipments.

Throughout its existence the Interstate Commerce Commission has persistently called attention to the desirability of a freight classification that shall be uniform for the entire United States. In 1890, as the result

of conferences extending over two years between representatives of the railroads of the different sections, a uniform classification was drawn up, but not adopted, because of the belief that a sudden attempt to enforce the same rules, classes and rates throughout the different traffic regions of the United States would be injurious, not only to the railroads, but to commerce and industry. At divers times since then the railroads have discussed the feasibility of such a classification, but there have been such wide differences of opinion between the traffic officers of the different railroads as to the practicability of its formulation and possibility of its application that little has resulted from the negotiations except a realization of the difficulty. The classifications of the various sections have developed along the lines characteristic of their respective traffic. Commodities that are staple and enter largely into the traffic of one region are of minor volume in the traffic of other regions, and, therefore, have been placed in different classes; the railroads of one section have restricted and those of another have extended the number of carload ratings; while difference in local practice or in the workings of many minds have resulted in certain articles being placed in one class in one section and in another class in another. The commerce of the respective sections has, however, become adapted to the respective classifications, and the railroad companies are still fearful, not only of the effect upon their revenue, but of the disturbance to business that would follow the changes necessary to make a classification uniform for the entire country. In numerous instances an article would have to be advanced to a higher class in one section or reduced to a lower in another, often with a corresponding change in the rate. There are cases, however, in which the different assignment of the same commodity in different classifications is without apparent justification. For example, the produce dealers of New Orleans obtain dairy products from the farms along both sides of the Mississippi River. These products are differently classified in the Western

Classification, which applies in Louisiana, and the Southern Classification, which applies in Mississippi, with the result that butter and eggs and chickens pay different rates into New Orleans from farms that are similarly situated in all respects except that they are on different sides of the river.

Almost immediately subsequent to the enactment of the Hepburn law the Interstate Commerce Commission renewed its effort to bring about a uniform classification, and a bill was introduced in Congress authorizing the Commission to formulate and enforce the adoption of such a classification, if this were not done by the railroads themselves within one year. The measure was not passed, the Commission and the railroads agreeing that the latter would make a further attempt to arrive at a practical solution of the difficulty. To this end a committee, composed of five representatives each, from the respective regions in which the Official, the Western, and the Southern Classifications now apply, held protracted sessions during 1907 and 1908, checking each item of the various classifications seriatim in order to arrive at a thorough understanding of the changes, concessions, and compromises that would be necessary to bring about uniformity.

The committee reported that in the Southern Classification there are thirteen classes, six designated by numbers and seven by letters. In all thirteen classes there are less-than-carload ratings, the total number of less-than-carload ratings being 3,503, the total number of carload ratings 773, or 22.1 per cent. of the less-than-carload. It reported that the Official Classification has six classes designated by numbers and two classes governed by rules, a total of eight classes, in seven of which are less-than-carload ratings. The total number of less-than-carload ratings is 5,852, and of carload ratings 4,235, or 72.4 per cent. of the less-than-carload. It reported that in the Western Classification there are five classes designated by numbers and five by letters, and that in four of the ten classes are less-than-carload rat-

ings. The total number of the less-than-carload ratings is 5,729, and of the carload ratings 1,690, or 29.8 per cent. of the carload. It further reports that in the Southern Classification 33.92 per cent. of the less-than-carload ratings are in the fifth, sixth, and lettered classes; that in the Official Classification only 1.25 per cent. of the less-than-carload ratings are below the fourth class; while in the Western Classification there are no less-than-carload ratings below the fourth class.

The Committee reports that it believes a uniform classification can be arrived at in time, although it cannot be foretold what the effect will be upon the revenue of the railroads or upon industry and commerce until such classification and ratings are made and placed in effect. It is certain that numerous advances, as well as numerous reductions, will be necessary to bring about uniformity, and that, as they cannot but have a great and far-reaching effect upon industry and commerce, the readjustment must be gradual and each step the result of thorough consideration. Just one example of the great number of difficulties encountered has been instanced as follows: 'It is not reasonable, for example, to expect that a condition will be easily reached in which the rate on cattle shall bear the same relation to the rate on shoes from the western ranges to Chicago, as the rates on the same commodities bear to each other between New York and Boston. The comparison of the present status is as follows:

Cattle, Montana to Chicago.....	75 cts. per 100 lbs.
Shoes, Chicago to Montana.....	\$2.85 per 100 lbs.
Cattle, New York to Boston.....	19 cts. per 100 lbs.
Shoes, Boston to New York.....	25 cts. per 100 lbs.

The rate on cattle in the one case is but one-fourth of the rate on shoes, while in the other the difference is an inconsiderable trifle. The conditions of the markets demand a low rate on cattle from the ranges, but such conditions do not exist between New York and Boston, where but few cattle are shipped,

It would seem that at the best there will need to be so many exceptions to a uniform classification as to seriously mar its uniformity.

There is no doubt that the railroads are seriously at work upon the problem, their desire to solve it, if possible, being indicated by the appointment of a permanent committee to work to that end.

A classification, however, will not be uniform unless it is uniform in fact as well as in name. This means that if the railroads and the Commission agree upon a classification and decide to make it effective, the modified classifications adopted by several of the States for intra-state traffic will have to be withdrawn. Virginia has such a modified classification, as have Iowa, Nevada, South Carolina, Georgia, Florida, and other States. Illinois has a published classification different from all others. The State Railroad Commission of Texas has made exceptions to the Western Classification as it applies upon traffic within the boundaries of that State, and exceptions have also been made by other State legislatures and commissions to the classification applying in the general traffic region of which they are part.

This leads to consideration of the broad question of

FEDERAL VERSUS STATE RATE REGULATION

Even before the formation of through lines consequent upon the authorizing Act of 1866 it had become evident that the commerce of the United States, both in volume and characteristics, was becoming widely different from that of the time when the nation was founded. The rapid development of both railroad lines and traffic has led to the present status whereunder main traffic channels, secondary, and minor traffic channels interlace over the entire United States, carrying raw material and finished products, and merchandise of all kinds, from sources of supply often to far-distant places of manufacture and through widely separated centers of dis-

tribution. These traffic channels have formed under the working of the economic processes which are in no wise affected by State boundaries. In their development to meet the pressure of this traffic for movement, and to develop new traffic, the railroads have extended without regard to State boundaries.

The development of through freight rate structures has, likewise, been without relation to State confines. The blanket rates of New England depend upon no State lines; the rates between the North Atlantic seaboard and the Mississippi River are centered upon a traffic base line wrought by the flow of traffic which knows not State boundaries in its course; the rate adjustment to the west of Chicago and St. Louis has evolved out of the contention between commercial centers regardless of what States they may be in. In the Southeast the action and interreaction of rail and water communication is irrespective of the lines dividing the States, and the flow of traffic to and from the Pacific Coast takes no heed of such lines. In Texas the freight rate structure has developed under the limitations prescribed by the State, which, however, are based upon political, rather than upon economic, foundations, and is possible because of its great size and isolated position.

The development of the freight rate structures, as set forth in previous chapters, discloses how close may be the relation that one rate bears to another. It is evident that a change in but a single one of the rates that is a thread in the woof into which the freight rate structure of a region is woven, or under which moves any one of the great staple commodities of commerce, may, in its ramifications, affect every other rate in that regional structure or in that commodity rate adjustment. A rate so changed may be an interstate rate or it may be an intrastate rate. A change, for example, in the intrastate rate between St. Louis and Kansas City would change the rates between any other point on the Mississippi as far north as Dubuque and any other point on the Missouri river as far north as Omaha, and, by so

doing, would change the rates on all through traffic from points east of the Mississippi to points west of the Missouri River. A reduction in the rate on coal from Duluth to interior points in Minnesota forces a reduction, not only from Superior, Wisconsin, but from Milwaukee, whose coal dealers compete with Duluth in the Minnesota markets. The change in a rate on grain between a station in Kansas and Kansas City may affect the rate from that and contiguous stations to Omaha, and the rates from a number of stations in Kansas to Galveston. The change in a rate between Savannah and Augusta, Ga., may change all rates between the North Atlantic seaboard and the southeastern interior.

A rate adjustment, working with satisfaction over an extended area and of proved stability under test of the Interstate Commerce Commission or the courts, may be overthrown by the action of a State legislature or State Commission desiring to obtain a local advantage for the shippers of that State. A change in the local rate between a distributing center and local points in the same State may nullify an adjustment of through rates from various cities supplying those points with merchandise. No one of these cases is merely hypothetical. The legislature of Minnesota did make a reduction in the coal rate from Duluth. Legislatures of Kansas and Nebraska have made reductions in the State grain rates. The State Railroad Commission of Texas has offset through rate adjustments by prescribing intrastate changes. The State rates of Arkansas, and of Georgia, have, in instances, been modified to give shippers of those respective States advantages over the shippers of other States. The Railroad Commission of Oklahoma, by establishing a low tariff on lumber within the State, forced heavy reductions from adjoining lumber regions in Arkansas, Texas, and Louisiana. The local rates of the State of Indiana are in a snarl in which the Ohio intrastate rates are a factor.

Not only may the change of an intrastate rate affect interstate traffic, but the physical separation of the two

kinds of traffic is practically impossible. The same trains running over the same rails may carry interstate and intrastate traffic in proportions that vary in different trains; the services of station men, despatchers, and yard men, and train men may be given to both kinds of traffic in proportions that vary from time to time, and, likewise, with the services of the administrative officers. The average cost of moving one ton one mile is but an approximation when the entire freight traffic of a railroad is taken cognizance of in the calculations. The attempt to ascertain the cost of moving one ton of intrastate traffic one mile as distinguished from the cost of moving one ton of interstate traffic one mile cannot be arrived at except by an approximation that, at the best, is entitled to but moderate respect.

Yet, at this time, the traffic manager of every railroad traversing several States is kept in a condition of chronic perplexity in endeavoring to adjust its practice, not only to the regulations prescribed by the Interstate Commerce Commission, but to those ordained by the various States. This division of governmental authority over the conduct of the traffic of this country is a factor of greater hindrance to its just and equitable movement than are all the conflicting customs of the different railroads and discordant classifications of the different regions combined.

That no one can serve two masters is a maxim which might be amplified by the statement that two masters cannot rule one servant without contention. That strife has grown out of the mixed Federal and State regulation of freight rates is a matter of recent history. A local agent in Northfield, Minnesota, was arrested, tried and sentenced by a local judge to one hour in jail because he would not accept rates enacted by the State legislature, although the enactment had been legally enjoined by a Federal judge. In North Carolina the legislature passed an Act lowering passenger rates, and also reducing freight rates, from 15 to 25 per cent. The United States Court issued an injunction against the enforcement

of the order, but the State authorities disregarded the injunction and found numerous indictments against the railroad company, which had been active in obtaining it, and its agents, and for a time it did not seem unlikely that the president and other officers of the company would be imprisoned. The amazing spectacle was presented of the State deliberately driving the road out of the United States Court to which it had applied for refuge. In this case the controversy over the passenger rates was the cause of the more intense friction. Alabama not only legislated as to rates, but decreed that if a railroad company, chartered in another State, but doing business in Alabama, should question in a Federal court a procedure of the State legislature or of the State Railroad Commission, such corporation shall forfeit its license for doing an intrastate business in Alabama. In accordance with this decree the license of a principal railroad company traversing Alabama was actually revoked by the Secretary of State, and not restored until imminent danger had arisen of a clash between the State and Federal authorities.

That the States may properly exercise police authority over the maintenance and operation of the railroads within their respective limits cannot be disputed at this time. It may, however, not be an entirely absurd proposition that, inasmuch as intrastate rates and interstate rates are so closely correlated as to form a practically indivisible rate structure, such authority as may be conferred upon the Interstate Commerce Commission to regulate interstate rates should, as a corollary, include the regulation of so-called intrastate rates. Indeed, it is not too much to predict that before this question is settled, the Federal Government will find itself compelled to exercise the same exclusive control over rail transportation that it exercises over marine transportation.

CHAPTER XXI

TRAFFIC EXPERTS IN THE EMPLOY OF SHIPPERS

IN the absence of recorded law the growth of definite and continued relations between men develops custom governing those relations which subsequently often receives legislative sanction and is made the basis of legal enactment. This development is exemplified by the growth of the freight rate structures of the different traffic regions, and it was in process with the railroads when they formed traffic associations, and especially when they resorted to pooling contracts, for which it was endeavored, throughout a considerable period, to secure legal recognition.

Another development that has been conspicuous during the past few years is the coming forward of intermediaries between the shippers and the railroads, through whose instrumentality inequalities and maladjustments in the rate structures are being brought into equipoise with a decreasing resort to either courts or commissions.

In these days of multiplying and intertwining railroads it is exceedingly difficult for their traffic officers to trace the effect of a change, even in one rate, throughout its various ramifications. The situation is not altogether unlike that when, in a delicately balanced iron bridge or steel tower, the changing of the strain upon one strand of cable or one beam will shift the incidence of weight throughout the entire structure. This comparison is particularly appropriate to the effect produced by the building of a transverse railroad crossing two or more parallel lines, or, indeed, the building of any new line that, by crossing other lines, changes the pattern of the network, as by the introduction of a new thread. In such a case the distances by rail between towns

and cities are changed, the relation of competing markets and competing distributing centers are modified, with a resultant upheaval of the rate structure, whose perturbations may extend far and wide. For example, as has been pointed out in a previous chapter, the building of a railroad from Kansas City directly to the Gulf caused another line, that had been bringing grain from points in Kansas to Kansas City for eastbound shipment, to arrange a route to the Gulf, over which it sent grain in competition with the new line, the reversal of the grain currents radically changing the grain rate structure of a considerable section.

When such changes occur a shipper not infrequently finds new combinations by which a rate can be made from a station on one to a more or less remote station on another line at less than the published rate. Indeed, an appreciable number of the cases in which the Interstate Commerce Commission has awarded reparation to shippers, have arisen out of just such kinks, which are being gradually straightened out.

Then, again, it is difficult for a traffic officer, dealing with the adjustment of rates on merchandise of all kinds, to trace the effect of a change in the rate on one commodity throughout the rates on all other commodities to which it bears a direct or indirect relation. It is this difficulty which gives rise to many of the problems that continually beset the classification committees.

This extension and intertwining of the railroads, the ramifying of the different factors that affect the adjustment of rates, have made the scrutiny of these rates and the estimate of their effect upon his business too complicated and specialized a task to be handled by a member of a firm or an officer of a corporation in connection with other duties. Many a corporation and many a firm that is an extensive receiver and an extensive shipper of freight, therefore, employs a "traffic man," whose principal duty once was to bargain with the railroads for rates, obtaining rebates when he could, but whose time and energy nowadays are largely absorbed in

keeping continually familiar with the tariff sheets of the different railroads, in watching the ramifications of any change in rates in order that he may take advantage of an adjustment that may favor the interests of his employers, and endeavor to obtain a revision of an adjustment that may militate against those interests.

Such a traffic representative, by specializing upon the study of the rates affecting the materials and products received and shipped by his company, not infrequently obtains a more thorough and far-reaching knowledge of those rates than many, even of the traffic officers of the railroads, each of whom is concerned with the movement of all sorts of traffic under the divers tariffs affecting that traffic. Such a traffic representative of an industrial or commercial company can often trace combinations of rates and weaknesses in the rate structure applicable to his particular commodity, which the railroads are glad to have called to their attention. It is from such men that the information in previous chapters concerning the relation of the transportation charge to prices on the principal products of manufacture has been obtained. They have almost, if not quite, without an exception, said that the railroad companies are ready, as a rule, to give full and prompt consideration to the matters which they bring to their notice; that they are ready to adjust discrepancies, or, in cases of difference of opinion, to make a statement of the points involved as they appear to the railroads.

Every shipper, however, cannot afford to employ an especial traffic representative. In every considerable city there are many establishments, each having a business which, although large, may not justify any one of them in maintaining a representative exclusively to look after traffic matters in its interest. Such shippers are coming very generally to employ, through a Chamber of Commerce, Board of Trade, Business Men's League, Freight Traffic Bureau, or other association, a traffic representative, whose duty it is to scrutinize the tariffs and watch the rates of the railroads as they affect the commerce

of his city. A few cities had such representatives a dozen or more years ago, but their number has greatly increased in the last five years. The generally expressed reason for this is that in the old days each shipper wanted to negotiate with the railroads himself to the end that he might secure as large rebates as possible, of which no one but himself would know; but that since the enactment of the Elkins law in 1903, the enforcement of which makes rebates on interstate traffic impossible, the shippers of each city find it desirable to work together. The duties of a traffic representative of a city and of the traffic representative of a particular firm or corporation are similar, but there is the vast difference that while the latter serves but one master, the former has several. In behalf of his clients he studies the tariffs, watching changes in rates. The members of the association through which he is employed advise with him in regard to the rates of freight as affecting their respective business, put before him what they consider to be grievances, and consult with him as to the possibility of obtaining changes in rates and classifications. The traffic representative proceeds, as an attorney, analyzing grievances, and examining applications for changes in adjustments before approaching the railroads.

The history of the Freight Traffic Bureau has not been the same in every city. At many places the railroads have welcomed the offices of a traffic representative as those of an expert intermediary tending to conserve the relations existing between the shippers and the carriers. In other cities, however, the railroads at first declined to recognize these functionaries, saying that as their business is directly with the shippers their negotiations must also be directly with the shippers. This attitude, of course, is, in its essence, without justification, as the shippers have the same right to employ a traffic representative as they have to employ a legal representative. The conduct of the traffic representative, however, has often been such as to bring about this attitude.

Here and there he has filled the newspapers with accounts of how the railroads discriminate against the city, and has approached their traffic officers with the overbearing manner of one who will obtain what he is after whether or no. This type of the traffic representative is prone to keep the air filled with complaints against the railroads in order that his constituents may think he is guarding their interests and earning his salary.

Many of the causes which, all unwittingly on the part of the railroads, may lead to inequalities in the rates affecting a city have been pointed out, and these they are ordinarily prompt to remedy when attention is directed to them. The pressure of the different influences which have made the rate structures what they are has, however, necessarily borne unevenly. It has forced the lowest rates along the lines of greatest traffic movement, and where there has been water or other forceful competition. This varying incidence of economic demand in connection with the discordant decrees of State legislatures and State Commissions has caused, at certain places in divers sections, an unevenness in the rate adjustment that may be compared to the roughness at the bottom of a river whose rocky bed contains corrugations over which the current flows, but that resist its erosive power. In such cases there are often features of the rate adjustment that cause complaint in an immediate locality, but which the railroads do not desire to change because of the ramifying effect that would derange the flow of traffic in more important currents. It would be as though an attempt were made to even the bed of the river by blasting out the rocks, but the effect of which would be to break down the banks of the river with a resulting greater disturbance in the flow of the current. A striking example of the situation referred to thus generally exists at Indianapolis, and will be described in a following chapter.

It should also be borne in mind that in the absence of other adjustments the rates on commodities are determined by the regular tariffs and the regular classifica-

tions. The pressure of a large volume of traffic or of competition of whatever kind forces reductions. A rate thus reduced and applying on a particular commodity in a considerable traffic channel may be much lower than the regular classification rate for a similar distance where the movement of that commodity may be infrequent and inconsiderable. That is, to use extreme examples, the rate on raw cotton from Memphis to Savannah is much less than the rate on raw cotton from Los Angeles to San Francisco; the rate per ton on iron ore from Ashtabula to Pittsburg much less than the rate on iron ore from Des Moines to Little Rock. The rates upon which little or no traffic moves are known among the railroad men as "paper rates." It is an easy matter for a man to collect a bundle of tariffs and, by picking out a lot of paper rates, make a superficial demonstration that his city is the victim of discrimination. There are traffic representatives who employ a portion of their time in this very procedure.

Still another situation is presented in a large city of an interior State. The President of the Chamber of Commerce, a man of sane conservatism, capable of seeing both sides of a question, frankly says that while the railroad rates are not in every case exactly as he would like them, he thinks the railroads are doing the best they can to smooth out inequalities and that they should not be the object of persecution. This man is the head of a large business and an extensive shipper. It happens, however, that the Chairman of the Transportation Committee of that Chamber of Commerce, a broker of but slight practical contact with traffic matters, is what the railroad men designate as a "fire-eater," unsparing in his attacks upon railroad rates and railroad methods in general. The traffic representative of that Chamber of Commerce at the time of his appointment was rather inclined to work along the lines of his immediate superior, the Chairman of the Transportation Committee. The railroads would have none of it. In time he moderated his demeanor and it is now his own testimony that the

railroads, as a rule, are willing and ready to give courteous consideration to any proposition he makes to them, and that the freight rates affecting the commerce of his city on the whole are satisfactory.

It is noteworthy that the traffic representatives of the large firms and the great corporations, as well as the traffic representatives of the shippers' associations of the various cities, are, in nearly all instances, men who have been trained in the railroad service, and are familiar with traffic conditions and the construction of rates and rate sheets. In very many cases these men have been taken directly from positions in the railroad service by the offer of higher salaries and find no difficulty in conducting intercourse with the railroad companies on the dignified basis that elicits mutual respect. In other instances these representatives are men who, for one reason or another that oftentimes has not reflected in the least upon either their character or ability, have not been in the transportation service at the time of their selection, but are entirely efficient in the sphere to which they have been chosen. In exceptional cases, however, an officer or an employee of a railroad company, discharged for cause, has enlisted in behalf of a shippers' association, and actively taken up the cudgels against his former employer.

With all its incidental evils, however, it is happily evident that the conduct of negotiations on behalf of the shippers of the country with the railroads by traffic representatives, made expert by their training in the railroad service, and study of the situation on behalf of their clients, is leading, and will lead in increasing degree, to the attainment, not only of amicable relations between the shippers and the carriers, but of a status mutually satisfactory to both.

A traffic representative having the confidence of the shippers of his city can analyze complaints before they are presented to the railroads, and, by explaining to his clients the nature of those that are without foundation, can save their being brought to the attention of the rail-

road officers at all. That their efforts are often used in this direction is testified to by the railroad officials themselves. When direct resort to the railroad companies does not bring redress of what is considered to be a well-founded grievance, and resort to the Interstate Commerce Commission or other tribunal finally be necessary, it can be made upon a clearly defined issue.

It happens in that city which produces a greater tonnage than any other in the United States that the relations between the shippers and railroads are amicable to an extraordinary degree. This good feeling has been brought about in a large measure by the Traffic Club, formed for the purpose of promoting acquaintance between the traffic representatives of the large manufacturing establishments and the traffic representatives of the railroads, it being thought that through acquaintance and calm discussion would be attained by the shippers and by the railroads a knowledge of the view point of each, and that this would lead to harmony. The shippers who are represented in the Traffic Club, however, are the concerns of great production, each having a representative who gives his entire attention to its transportation interests. The similar needs of the smaller manufacturing and mercantile establishments are met by the Merchants' and Manufacturers' Association, whose achievements, through methods inaugurated by its traffic manager, who used both energy and urbanity in solving the problems that confronted him, have been so remarkable that they are chronicled here in some detail.

A fundamental discussion of the freight rates indicated that many members of the Association were lacking in comprehensive knowledge of the adjustments. It was found that ostensible inequalities did not work to the prejudice of the city—indeed, that in at least one case an apparent disadvantage on the whole inured to its benefit—and that the rates on the raw material consumed in and the products manufactured by the city were entirely equitable in almost every instance. Real grievances were promptly adjusted by the railroad companies, who

also made certain modifications that were requested in classifications.

It was ascertained that the wholesale dealers of the city, although enjoying freight rates as favorable as those of competing commercial centers, were not selling merchandise in as large volume in some parts of the competitive area; that in many cases shipments did not reach their destination in this area until 24 or even 48 hours after shipments from rival commercial centers at no greater distance. This led to the Association arranging that each of its members enclose a postal card with the invoice of each shipment to a customer. The customer would note upon the card the number of days the shipment had been in transit and whether it was received in satisfactory condition, and return the card to the traffic manager of the Association. In the course of a year nearly 20,000 of these postal cards were received by the Association and classified according to the towns from which they were received.

When it was exceptional that a shipment took an undue time in transit complaint was not made to the railroad, but when such long time in transit was the rule, investigation was made to ascertain the cause. It was found that, for instance, freight for a given destination was loaded in the same car with shipments destined to other points and transferred at an intermediate junction, this unloading, waiting for a car and loading again, consuming time. In many of such cases a railroad company was induced to run a car—RQ, as it is termed, regardless of quantity of load—through to the place of destination, thereby avoiding the delay of transfer from one car to another. The Association would notify its members of the inauguration of such through car service and ask them to endeavor to provide traffic sufficient to justify its continuance. The merchants, thereupon, would, for a period, concentrate the efforts of a number of their traveling men in the region served by the through car, their solicitation on the strength of the improved service not infrequently resulting in additional cars being placed in service. In the case of outlying cities

and towns, each of which could be reached by two or more routes, it was sometimes found that tonnage sufficient to justify the maintenance of an especial through car could be secured if the merchants would send all of their shipments via one route. In cases where shipments did not continue at a rate sufficient to justify the service of an especial car every day, the railroads would agree to provide such a car every second day or twice a week, in rare instances even only once a week, the shippers agreeing to forward their consignments on the days of the special service. The consignees preferred such an arrangement notwithstanding that their receipts were intermittent, it being to their advantage to have regular days for receipt and that their shipments be not subject to the handling necessitated by transfer. It sometimes happened, in the case of a railroad receiving freight at two or more stations, that an aggregate shipment, sufficient to justify a special car to a destination of even minor importance, could be obtained if the merchants would concentrate their deliveries at one station.

It was sometimes found that consignees would frequently report freight as being 24 or 48 hours late, although the records of the railroads showed that it had promptly reached its destination, it developing that the fault was with a consignee's drayman, who had allowed the freight to remain unnecessarily long at the station. Other cases of delay were due to the inadequate indication of the address; packages often being badly or improperly marked, or even not marked at all. Such derelictions were brought to the attention of the members of the Association, who explicitly instructed shipping clerks to avoid repetition.

Both the merchants of the city and the railroads were agreeably surprised at the results obtained from the improved service, which owed its inauguration to the Association, their traffic with any one of several cities and towns being increased from 50 to 600 per cent. These results clearly indicated that whatever had been the shortcomings on the part of the railroads they pertained not to rates, but to service, which the railroads were only too

glad to improve when the directions in which improvements could be made were indicated to them.

The work of the Association was directed, not only toward the facilitating of outbound shipments, but to improvement in the handling of inbound shipments. It co-operated with the railroads, who found that the freight received at the local freight houses was often allowed to remain an undue time on the platforms, the merchants preferring to incur storage charges to taking it promptly away. The attention of the merchants was called to the fact that this resulted in freight being piled up to a height of fifteen or sixteen feet, and that it often had to be handled over and over again to obtain particular shipments in the bottom or middle of stacks, the liability to damage thereby being increased and delay caused to drays and wagons in waiting. The shippers agreed to assist the railroads by taking their freight from the stations promptly and also to aid them in the movement of carload freight by giving prompt attention to the loading and unloading of cars placed on team tracks and industrial sidetracks.

One of the many advantages secured by the co-operation of the shippers in this Merchants' and Manufacturers' Association was the promotion of acquaintance-ship among its members, many being brought into cordial and helpful relationship who had been in business for many years, often in the same neighborhood, with but the barest acquaintance.

In earlier chapters has been indicated the relation that the freight rates bear to the movement of the principal raw materials, and have been outlined the regional rate structures under which distribution is made through the commercial centers of manufactured products and merchandise in general. The attitude of each city toward the freight rate adjustment, as it affects the industries and commerce of that city, is disclosed by the results of a survey made during the period extending from February, 1907, throughout October, 1908.

CHAPTER XXII

THE COMMERCE OF THE CITIES

THE commerce of a city, as well as of any other traffic district, naturally divides into three classes: first, that in the commodities which it produces for market elsewhere; second, that in the commodities which it must bring from elsewhere for consumption within its limits; and third, that in the commodities for which it is a distributing center, those which both come from elsewhere and are marketed elsewhere. A fair consideration of the effect of the freight rates upon the commerce of a city must, therefore, take into account, not simply the extent to which they facilitate or hinder the movement of a fractional part of the traffic, but the total effect of the rate adjustment upon the total commerce.

Of the three classes of traffic the first is the most important, for if a community cannot find adequate market for that which it produces it will not be able to purchase that which it needs. The first class is also the most important, not only as affecting the prosperity of a city, but as affecting the material welfare of the nation, for a prime factor in that material welfare is the facility with which the people of all communities may obtain the products which they require. The second class of commerce is also of importance to the nation, as a whole, for another prime factor in its material welfare is the facility with which the products of different communities find markets. In other words, that articles of material need shall be produced is the first consideration, and that they shall be conveyed to those who need them is a consideration that is almost, if not quite, as important as the first. The test of a system of freight rates from the point of view of the entire

nation is, therefore, the extent to which it affords facility or hindrance to the production and consumption of commodities on the part of the whole population, the extent to which distribution is facilitated among the people of the whole nation. Viewed in this broad aspect, it makes little difference to the nation as a whole whether the people of a given community make their purchases from one or another retail merchant, or whether the retail merchants of a certain area obtain their stocks from one or another equally convenient and serviceable wholesale center. It makes a vast difference, however, to a retail merchant whether the residents of the community purchase their supplies from him or from a rival, and it makes a vast difference to the wholesale dealers of a commercial center whether the retail merchants of a considerable area obtain their stocks from them or from the competing wholesale dealers of a rival distributing center. That is, while the requirements of an extended population can be met as well, within limits, through one as through another series of distributing centers, the merchants of each distributing center are at all times desirous to increase their business and, therefore, to extend the radius of their markets. When the freight rate adjustment gives, or apparently gives, the wholesale dealers of one city an advantage, or an apparent advantage, over the competing wholesale dealers of a rival city, pressure is brought to bear upon the railroads for a readjustment of the rates. It has, therefore, often come about that the rate adjustment affecting a city as a distributing center,—that is, in the marketing of goods obtained from other places and sold at other places which, from a broad economic standpoint, is of less importance than either of the other two classes of its commerce,—has subjected the freight rates to the greatest stress because of the immediate importance of that adjustment to its wholesale merchants.

As the railroads followed the westerly extending population, the great cities of the North Atlantic seaboard

sought to retain the distributive function. As the railroads were built beyond the western termini of the Trunk Lines, those termini endeavored to prevent the through shipment of merchandise that their dealers might continue to profit by having it pass through their warehouses. A most conspicuous example was at Erie, where the citizens en masse endeavored to prevent physical connection between the tracks of the railroad connecting that city with the East and the railroad being constructed from that city toward the West; the ensuing riot, known as the Erie War, not being quelled until there was the interposition of Federal power. Rivalry between commercial centers and towns aspiring to become commercial centers, as bitter in spirit although not so forcible in manifestation, has followed the development of the country step by step as it has progressed beyond the Missouri River. This rivalry, through the influences which it has brought to bear upon the railroads, has been, as shown in the chapter devoted to the regional rate structures, a prime factor in the moulding of those structures. The manner in which the rate structure of the region affects the commerce of each of the principal industrial and commercial centers of that region will now be considered. Where the relation of the freight rates to the products brought into a city for its consumption and to the products manufactured by a city for market elsewhere have been indicated in previous chapters, reference to these classes of its commerce will be omitted here, and consideration given alone to the rate adjustment as affecting its status as a distributing center.

THE NORTH ATLANTIC SEABOARD

The commerce of the City of Boston is fairly typical of that of any one of the score or more of important towns of southern New England. Under the rate structure which brings raw material to every one of these

towns at the same rate, and takes out manufactured products at the same rate to the consuming population west of the Alleghany Mountains, placing the entire district upon practically the same basis as to the charge to and from these markets that applies to and from the competing region of which New York and Philadelphia are the focal centers, it would be singular if there were not general satisfaction on the part of the manufacturers and merchants with the rates of freight. That there is such general satisfaction was disclosed by interviews with leading men in every line of industry extending over a period of three weeks. The only suggestion that even savored of complaint was from a manufacturer of rubber goods, who thought he should have a carload rate to Chicago. This satisfaction does not apply to the export grain rate, which is the same as to New York; the Boston grain dealers being much opposed to the differential rate enjoyed by Philadelphia and Baltimore, which was fixed at its present status by arbitration of the Interstate Commerce Commission.

To the extent that the freight rates of the railroads affect their commerce in general, New York, Philadelphia and Baltimore, the other principal cities of the North Atlantic seaboard, together with the thriving cities and towns that are thick in the intervening territory, have as little cause for complaint as Boston. These cities, the Eastern termini from which extended the first through lines toward the West, were the beneficiaries of the competition that raged between the Trunk Lines and resulted in giving them the lowest through rates on raw material inbound and on manufactured products outbound that exist in the United States. The fact that no one of these cities appears as a complainant against the railroads during the period of the analysis of the docket of the Interstate Commerce Commission set forth in a previous chapter, indicates that their shippers are aware of their favored status, and this was almost invariably the testimony of the considerable number whose expressions were sought.

BUFFALO

The Great Lakes are navigable from the western shores of Lake Superior to where the eastern flow is over the Niagara precipice. Its location to the west of this obstruction made Buffalo the most prominent lake port in the State of New York, the city which the railroad lines from the metropolis sought to enter. Its early prominence was as a place of reception and distribution for lumber brought down the lakes. Of later years it has been the leading port through which grain brought down the lakes has been transferred for further shipment by the railroads or the Erie Canal; a port to which ore is brought from the North by boats that take anthracite and bituminous coal as return cargoes, as well as vast quantities of the merchandise manufactured in the industrial cities of the North Atlantic seaboard. The fact that it has the advantage of water transportation, and of rail rates adjusted thereto, on the staple food-stuffs from the grain and grazing grounds of the West, together with its proximity to the eastern manufacturing centers, accounts for the fact that Buffalo enjoys rates of freight on her articles of general consumption averaging as low as those of any city in the United States.

The water carriage of grain has led to this city becoming a flour milling center, and to consequent rivalry with Minneapolis. The millers at the head of the lakes naturally desire the difference between the rates on wheat and the rates on flour kept at a narrow margin to facilitate the distribution of flour from their mills; while the millers of Buffalo likewise naturally are in favor of the lowest rates on grain that they may obtain their raw material at a cost that will enable them to sell flour at prices that will secure its wide distribution in competition with Minneapolis. The fact that the Trunk Lines endeavored to increase the rate on flour from Buffalo to places of eastern consumption by one or two cents per 100 pounds, while the western lines made no increase from

the northwestern mills to the same points, aroused complaint of the Buffalo millers, in response to which the Interstate Commerce Commission restored the rates previously in effect.

Beginning at about the time of the Pan-American Exposition, the commerce of Buffalo received a new stimulus. The diffusion of knowledge as to the many advantages of the city led to an increase in the population; the utilization of the power of Niagara brought industries. The eyes of iron masters opened to the fact that the cheapness with which ore is brought by lake to Buffalo, together with the low transportation charges on limestone, give the city an advantage in the production of iron and steel, notwithstanding that it is not so near the coal fields as Pittsburg. Hence the erection of the great plants at Buffalo, the population of the city from this source alone having increased 50,000 or more in half a dozen years.

Its industrial limits have extended far beyond the belt lines that once encircled the city, upon which so many establishments have located that a large portion of the traffic is the movement from one to another mill or factory upon the same belt line. This, as the railroads point out, is not switching service, but a complete transportation service that saves the industries long, tedious and repeated hauling by team. In order that their charges for this service should in some degree be commensurate with its value, and especially as the cars at present in use are of far greater capacity than those of the time when the switching charges of these belt lines were established, the railroads advanced these charges, but so sharply as to create a good deal of feeling on the part of the shippers, who took the matter to the Public Service Commission of the State of New York.

This complaint as to the switching charges and the complaint of the millers as to the rates on flour seem to be the only ripples that have occurred in the Buffalo rate adjustment for many years, and they have been

straightened out. There is no question that the lack of adequate yard and terminal facilities, which were evident throughout the country during the high traffic pressure of the early years of the decade, was especially marked at Buffalo, these facilities here being under unusual stress because the city is an important railroad terminus, a place where large quantities of freight are transferred to and fro between the vessels of the lakes and the railroad cars, and also because of the accelerated industrial development. The railroads are taking steps to remedy the situation, but long-standing friction between them and the city as to rights of way and location of stations apparently impede the most satisfactory solution. It would seem to be time for both the citizens and the railroads to forget the past in that co-operation which will effect the end desired by both.

PITTSBURG

Pittsburg owes its site to the juncture of the three rivers that once were potent in the conveyance of her commerce. When old Fort Duquesne was built on the point of land where the Allegheny and Monongahela meet and whence the Ohio takes its course, there was no portent of the city that would spread over the hills, or of the difficulties that would beset the development of the channels of transportation that were destined soon to outweigh by far the waterways in importance. When the first railroad was constructed along the narrow valley from the East, the only thought was to reach the river's edge, where connection would be made with the packets. When railroads were built toward the West, one along the terrace on one side of the Ohio River and the other along the terrace on the opposite side, there was no thought but that these railroads, and those which later were built along the rivers' shores, would suffice for such traffic as would be offered for movement to and from, as well as through the city.

But before many years the limited area that lies be-

tween the hills and the rivers was covered with buildings. The tonnage that originated in Pittsburg increased, the tonnage that passed through Pittsburg increased. The opening between the hills and the rivers was as the narrow part of an hour-glass through which converge trains from the East that radiate throughout the West, and trains from the West that radiate throughout the East. The mills absorbed enlarging quantities of coal, coke, ore, limestone, sand, and gave forth increasing quantities of bars, billets, blooms, rails, and glass. These materials and products, coal from the adjacent mines and oil from near-by refineries, pressed upon the tracks through this narrow part of the hour-glass. The circumscribed area of the city was more and more given over to business, forcing residence beyond the hills, the increasing suburban traffic heightening the physical difficulties of the railroads. Indeed, the difficulties that arose were without parallel, and the difficulties that remain are without parallel in any other leading city of the world. The circumscribed area of lower New York forces a large suburban traffic, but there is no such heavy movement of freight. In Boston, Philadelphia, Chicago, and St. Louis there is a greater or less volume of suburban passenger traffic, but no comparable movement of heavy freight, and no such limitation of the available area, the level land permitting a network of rails. In Pittsburg the heaviest freight tonnage, the heaviest through passenger traffic, and the densest suburban traffic press for movement upon the tracks between the hills of solid rock. The place of greatest traffic pressure in the entire United States and of the greatest natural resistance to traffic movement coincide. A solution of the problem has been measurably attained through the building of tracks around the city, over which through traffic can pass from one railroad to another without going through the city proper. Such connecting tracks have been built from one railroad to another, covering longer and longer reaches in an extending radius. The magnitude of the problem is dis-

closed by the fact that the tonnage handled in Pittsburg exceeds in quantity the combined tonnage of New York, London, Liverpool, Hamburg and Antwerp.

Pittsburg does not produce food, but in the one year of 1907 were brought for the consumption of the Pittsburg district 240,000,000 dozen eggs, aggregating at 20 cents per dozen a value of \$48,000,000; 150,000 tons of butter, aggregating a value of \$45,000,000; 12,700 cars of dressed meat, aggregating in value \$16,192,000; and 1,762,770 head of livestock, aggregating in value \$32,387,000, as well as 30,000 cars of grain and grain products and 29,000 cars of vegetables and fruit. It is noteworthy that the consumption of eggs is double that of Greater New York, and of butter one and one-half times greater. This consumption is that of the Pittsburg district, the region within a radius of 40 miles from the Court House, which constitutes a definite traffic area, the rates to and fro between any place within that radius and any place beyond that radius being the same. The great consumption of foodstuffs is doubtless accounted for by the high wages earned by the workers in the mills and mines, the need for abundant nutrition caused by the exhausting nature of their work, and in no small degree by the fact that their pleasures are largely of the table.

Although vastly the greater proportion of the traffic of Pittsburg, from seventy-five to ninety per cent., is of the coarser raw materials and the heavier products of manufacture, she is also a distributing center of general merchandise, second neither to Buffalo, Cleveland nor Cincinnati, her principal competitors in this respect for the trade of western Pennsylvania, West Virginia, Ohio and Indiana.

During the dozen or so years beginning in the early seventies when the Trunk Lines were fighting bitterly for the traffic between the North Atlantic seaboard and Chicago and St. Louis, the competitive through rates were often out of proportion to and sometimes actually less than those applying to and from Pittsburg, and her

citizens were in a state of chronic indignation because of the discrimination. That this status long ago ceased is proved by the noteworthy fact that with all its vast commerce not a case has been brought before the Interstate Commerce Commission growing out of a complaint as to the freight rates affecting the commerce of this city. The only case before the Commission concerning the city was that in which a railroad, whose station was remote from that of a brewery, endeavored to equalize its disadvantages in competition with a railroad having a station nearer the brewery, by allowance for the cartage of shipments, a practice condemned by the Commission.

CLEVELAND AND COLUMBUS

The officers of the Chamber of Commerce of Cleveland, as well as the foremost merchants, say that that city is practically without grievance against the railroads because of the rates of freight, and has less reason for lack of satisfaction with their facilities than many other commercial centers. This does not mean that either terminals or yards are all that they ought to be, but each of the principal railroads has a large modern and thoroughly equipped yard through which the movement of traffic—exasperatingly slow as at times it may have seemed—has been fairly expeditious even during periods of great congestion in other cities. On hardware, groceries, dry goods and clothing, the great staples of which Cleveland is a distributing center of importance, the freight rates permit her to compete to the fullest extent with her natural rivals, Buffalo, Pittsburg, Columbus, Cincinnati, Indianapolis, Detroit and Chicago. The diagram of the markets in the Chamber of Commerce shows that her wares go almost to the very portals of each of these cities. The rates on grain are so nicely adjusted that the grain merchants unhesitatingly affirm that Cleveland receives, distributes and mills the full share which logically should come to her. The provision industry does not think that its rates on live animals from the

west of Chicago, together with the rates on the animal products to the East, are low enough to put that industry on an exact parity in competition with Chicago for the eastern and export trade. The railroads point out, however, that the Cleveland packers have an advantage over Chicago in the case of livestock from Illinois, Indiana and Ohio; and that Chicago, Omaha and Kansas City are, for economic reasons, logically the packing centers for the livestock of the West. The rates on iron ore from the upper lake ports, and on the coal that moves in the opposite direction, are so adjusted that the traffic that comes through each of the Lake Erie ports, Erie, Ashtabula, Fairport, Cleveland, Lorain, Sandusky and Toledo, is determined by its facilities or the interests of the shippers.

The adjustment of freight rates that is so favorable to the commerce of Cleveland is quite paralleled by that affecting the commerce of Columbus. There is scarcely a market in the United States with which this city does not have direct communication by rail, and it may be stated on the authority of her citizens who are most familiar with traffic matters that in so far as railroad rates are concerned the commerce of Columbus is without impediment. Such commodities as are distributed throughout the city, such commodities as are manufactured in the city for market elsewhere, and such commodities as are brought from without for consumption within the city, move at rates of freight of which her merchants and manufacturers make no complaint.

THE SOUTHEASTERN RATES COMPLAINT

The cities of Chicago, St. Louis, Louisville and Cincinnati have one common grievance as to freight rates which is the subject of perennial complaint. It was this complaint that was the basis of the Freight Bureau Cases in 1896, and it recently has been presented anew to the Interstate Commerce Commission. It is that the railroads leading from the Ohio River into the South-

east do not accord as low rates of freight per ton mile to certain of the southern cities as are made to these cities by the railroads extending thereto from New York, Philadelphia, Baltimore and Richmond. The officers of these railroads say that the charges on the lines from the eastern cities into the South are kept down by the rates of the coast line steamers; that if the rates of these seaboard lines were advanced the traffic in increasing proportion would go from the eastern seaports by water; that if the rates from the Ohio River into the Southeast were reduced, revenue would be diminished that even now is all too inadequate to enable the railroad companies to properly maintain and to build up their properties. Bearing upon the actual effect upon the commerce of these cities of the present adjustment of the southern and southeastern rates, it is obvious that much of the traffic into this region from the East is without competition from these cities and the West, and that much of the traffic into this region from these cities and the West is without competition from the East. The finer fabrics, the more delicate textiles, the smaller and more intricate appliances and pieces of mechanism are shipped almost exclusively from the New York and New England districts. Grain and grain products, meat and meat products, are shipped into the South almost exclusively from the region to the north and west of the Ohio River. The expensive and luxurious vehicles find their way into the South largely from the East; wagons and agricultural implements from the North and West. The division of these traffic currents is caused by geographical and physical conditions, and it is also furthered by the long-standing endeavor of the southern lines to prevent that circuitous competition which one time ensued from the carrying of the eastern products into the South by way of the Ohio River and western products by way of the Atlantic seaboard. (See page 256.)

Woodworking machinery and woodenware of various kinds, manufactured in the cities on the Ohio River and

to its north and west, are sold throughout the South, and, for that matter, all over the world, without let or hindrance from railroad rates. There is some competition between the region to the north of the Ohio River and the East on hand tools, but the freight rates enter so slightly into their value that their sale throughout the South from the northern and western places of manufacture is not hampered. On manufactured clothing of all kinds, garments for both men and women, and on shoes, Chicago, St. Louis, Cincinnati and Louisville are in active competition with Baltimore, New York, and the East generally, but here again the transportation charge enters so slightly into the cost as not to circumscribe the market from any place of production. In these and in many other lines of merchandise the quality of the goods, the excellence of workmanship, the organization for securing business, the intelligence and activity of salesmen, are the controlling factors in the markets, and not the freight rates. Indeed, the manufacturers and the shippers of the East are lamenting the fact that so much of their trade is passing to these interior cities. That their fear is not without foundation finds illustration in the fact that a principal market for a leading shirt manufacturing firm of Chicago is the State of Virginia. To maintain and extend their business in the Southeast the manufacturers and merchants of these cities in many cases have to equalize the freight rates with their competitors in the East. It is quite true that this equalization, while of little consequence on any single consignment, may mean a good many dollars in the course of a year to each shipper, and a good many thousands of dollars in the aggregate in the course of a year to the railroads. The question is who needs the money the more, the shippers or the railroads? Would a reduction in rates decrease the revenue of the railroads to the extent of hampering their service to the greater injury of the shippers than the amount which the shippers have to allow for the equalization of freight?

CINCINNATI

By common consent and general admission the freight rates of the railroads extending east, west and north from Cincinnati are satisfactory to her shippers. Pig-iron from the southern furnaces, lumber from the southern forests, whiskey from the southern stills, machinery of her manufacture and the wares of her wholesale merchants flow through Cincinnati to the markets in these regions without hindrance from freight charge. The northern lines likewise bring commodities to Cincinnati from the New York and New England district on the east; from Pennsylvania, Ohio, Indiana, Michigan, Illinois and the vast regions beyond Chicago and St. Louis, at rates of freight of which her merchants make no complaint. The report of the Chamber of Commerce for 1906 states that the rates of freight from Cincinnati to the markets of the United States, and, what is of more immediate importance, to the markets within 600 miles, average less than the rates of freight from Chicago, St. Louis or Minneapolis. Of the staple commodities of general and daily need a vast proportion are manufactured in the city. This is largely due to the fact that coal of most excellent quality is brought by river from Pittsburg, Ohio and Virginia fields at the cheapest transportation rates known in the country, and by rail from mines not so remote at rates correspondingly low.

The access of the various factories to the different railroads would be facilitated, and current disagreement as to switching charges eliminated, were there a belt line over which a factory located on one could easily reach the tracks of another railroad. The construction of such a line would be difficult because of the local topography.

LOUISVILLE

Located where the currents of traffic from the South meet the currents of traffic from the North, Louisville

is naturally a distributing center for each region of the products of the other. In the cheapness and variety of lumber supply she is not second to any city of the country; her furnaces are fed by the best of coal brought from the Pittsburg and Ohio fields by the river tows and from the Kentucky fields at low rates by rail.

To the total value of the shipments from Louisville whiskey contributes over 20 per cent. Without let or hindrance because of railroad rates, this whiskey goes throughout the entire United States. The dealers think that perhaps the difference between the rates on whiskey bottled or in cases, and on whiskey in barrels, is unduly great, but the railroads state that there is far greater risk of damage to shipments in bottles, and that, as a matter of fact, they have to pay heavy claims for damages to such shipments. Another foremost commodity in the shipments from Louisville is tobacco. This, likewise, without let or hindrance from railroad rates, goes not only all over the United States, but all over the world, even to the interior of Africa, for the use of the far-away cousins of the colored folk who assort it and pack it in the hogsheads here. Louisville is conspicuous in the manufacture of wagons and agricultural implements. They have the sweep of the entire South, which buys thousands of carloads every year, and in competition with the great factories of Illinois they are sold throughout the West, even on the Pacific Coast, the freight charge in no case restricting their market.

In competition with St. Louis and Memphis, Louisville distributes grain throughout the South and Southeast, and she mills wheat into flour which is likewise distributed throughout the South and Southeast on rates that place her on a parity with these cities; her packing houses gather hogs from the near-by regions and supply pork not only to the South, but export it to Europe, at rates which, if anything, give her an advantage over the great packing houses of Chicago, St. Louis and the West. In common with the nation-wide trend in the distribution of groceries and dry goods, her market for

the great staples in these lines is within a narrower area; but her manufactured clothing goes over the country at rates so low that the manufacturers do not take them into consideration. Both specialties and staples of hardware and plumber's supplies are marketed throughout the South from the Carolinas and Southern Florida to Texas.

In brief, the adjustment of railroad rates on the commodities that Louisville produces is such that they can be sold anywhere in the United States, and they are sold in the East, North and West, as well as throughout the South. On the goods that she distributes to the Virginias her rates are slightly higher than the rates from Cincinnati. Her rates to the region from the Carolinas to Alabama are the same. The rates to the Southeast give Louisville an advantage over St. Louis, but to Alabama the advantage is with St. Louis. On the great bulk of merchandise, however, the difference in rates to any part of the Southeast, South or Southwest is not sufficient to keep Louisville out of the markets. The local rates of the southern railroads are, owing to their scant traffic, admittedly high, but they do not place either of the Ohio River cities in any market at more than a trifling disadvantage in relation to another. The wonder is that with her geographical and physical advantages and her extending communication by water and rail, Louisville is not a greater city, especially a greater manufacturing city. Whatever the retarding factors may be, railroad rates are certainly not among them. This affirmation rests upon the statements of a dozen or more of the foremost shippers and foremost citizens.

CHICAGO

As a midway station in the channel of through eastern and western traffic Chicago is on a parity, in so far as freight rates are concerned, with St. Louis, Kansas City and Omaha, not only as a center of eastern distribution for the grain and grain products, livestock and

livestock products of the West, but in great reaches of competitive territory as a center of interior and western distribution for the manufactured goods of the East.

The manufacturing activity of the city rests upon sure foundations. Iron ore, the basic material of the imperial industry, is brought by boats the length of Lake Michigan from the finest ore beds in America to the furnaces at Chicago. This advantage and low freight rates on coke and limestone have led to the erection of the great plant of the United States Steel Corporation at Gary. While there were yet abundant forests in the adjacent States were laid the beginnings of the wood-working industries which increase yearly. Chicago is a focal market for the coal of the Danville, Ill., field; of the Sullivan County, Ind., field; of the Springfield, Girard and Northern Illinois fields, and it annually consumes hundreds of thousands of tons of both coal and coke from the Ohio, West Virginia and Pittsburg fields. It is no wonder, then, that the special census of manufactures for 1905 found within the city of Chicago more than 8,000 factories with a capital of nearly \$650,000,000, with over 280,000 names on their payrolls. These returns do not include the industries of the surrounding district, which industrially and commercially is part of Chicago. The conspicuous products of these plants are the heavy articles of commerce, the products of lumber, machinery and agricultural implements. There is little or no attempt at the manufacture of woolen goods, cotton goods, or the smaller delicate and complicated appliances.

The difference between the carload and the less than carload rate, that in some cases seems unduly wide, permits the interior cities of Illinois, Wisconsin, Iowa, Minnesota, and those located on and to the west of the Missouri River, to do a jobbing business in groceries, hardware and other staple commodities in the region that a generation or so ago was supplied almost entirely by the wholesale dealers of Chicago. In the higher grades of merchandise, however, the freight rates do

not interfere with Chicago buying anywhere or selling anywhere in the United States. At her great furniture sale exhibits are made by factories of all parts of the country, and it is attended by buyers from every section. Her fancy groceries are marketed in Arizona, Montana, and even in New York; the principal dry-goods house has seven solicitors in San Francisco. For her manufactured specialties her market is the world.

The old-time rivalry between Chicago and St. Louis for the trade of the western markets resulted in the fixed differences established in the rates from the two cities to certain competitive areas. Chicago has never ceased to chafe because of the advantage accruing to St. Louis on account of her rates into the Southwest, and it also feels that the difference of but five per cent. against the rate from St. Louis to St. Paul is not quite equitable. The St. Louis-St. Paul rate, however, is the result of a long established adjustment, and St. Louis will probably never relinquish her advantage in the Southwest unless overpowered by an armed force. Therefore is equilibrium.

ST. LOUIS

A study of the commerce of St. Louis leads to a repetition of the statement that applied to Chicago. As a gateway for the distribution to the Eastern States and the Atlantic seaboard of the grain and grain products, livestock and livestock products of the West, St. Louis is, so far as through rail rates are concerned, on a parity with Kansas City, Omaha and Chicago. As a gateway for the distribution throughout the West of merchandise from the manufacturing districts of New York and New England, St. Louis has a very favorable basis of rates that gives it a far-reaching advantage. There is a vast area of the Southwest wherein the jobbers obtain from the wholesale dealers of St. Louis the stocks which these jobbers sell to the retailers. For the higher grades of merchandise, drygoods, clothing, the lighter

weight manufactures of all kinds, St. Louis can draw from any part and sell in any part of the country, or, indeed, of the world. This city is a large manufacturer of shoes, furniture, enameled ware, stoves, all of which are sold throughout the United States; and as a distributing center for hardware, woodenware, and tobacco, her fame is world-wide.

Aside from the complaint as to the rates into the Southeast, which St. Louis shares with Chicago, Louisville and Cincinnati, there is very little in the freight rates to cause her merchants to demur. The adjustment of competitive rates on grain with Kansas City and Little Rock hangs in the balance, but here it is a contest between communities which the railroads would be glad to have them settle for themselves. St. Louis and Kansas City each desire to command Little Rock's market, while that city would gladly be independent of either and become a grain center herself. The carload rates on potatoes, onions and cabbage, from the farms of Iowa and Minnesota through to Texas by direct routes, are less than reconsignment rates via St. Louis. These commodities, therefore, are shipped direct instead of paying toll to the St. Louis warehouse men as in former years. This naturally elicits their regret, but the St. Louis commission merchants, through agents in the field, are still in large measure the intermediary between the northern grower and the southern consumer, and likewise between the southern grower and the northern consumer.

St. Louis long suffered from the error of a previous generation through which the terminals of the eastern lines were laid on the Illinois instead of the Missouri side of the river. The arbitrary charge for transferring across the Mississippi bridge, in addition to the through rate, has been an incubus that has been almost abolished, the Trunk Line Percentage rate from New York being made 117 per cent. of the Chicago rate, including the bridge toll; this is far more favorable than the previous 116 per cent. to which the bridge arbitrary was

added. Within a radius of 100 miles of the city, the bridge arbitrary still applies. From and to this area, however, there passes but three-tenths of the traffic using the bridge. Here remain struggles between the producers and shippers of coal and other heavy commodities as to the relative rates from place of production to place of market within the radius. These matters, arising out of friction between local competitors for the local markets, do not affect the broader area or the total volume of the commerce of the city.

KANSAS CITY

The traveler from the East finds Kansas City on the manufacturing frontier. The traveler from the West finds Kansas City on the eastern boundary of the great grain and grazing region, the larger portion of the surplus grain and nearly all of the merchantable cattle being produced to her west. Kansas City, therefore, is one of the first of the receiving and distributing points for the livestock and livestock products, grain and grain products, and in respect to the rates thereon there seems to be general satisfaction as they apply from places of production and to eastern and southern markets. Coal from adjacent fields is brought to her confines at a freight rate that does not exceed from 50 to 60 cents a ton, even for distances so great as 150 miles; the lumber rates are also entirely favorable, the tariff being 23 cents per 100 pounds from the yellow pine forests of Louisiana; cement and brick are produced at kilns almost within the city, the freight rates forming an inconsiderable fraction of the selling price. In regard to the principal food supply, Kansas City is equally fortunate; no city in the United States obtains grain and meat, the basic foods, more cheaply; from the surrounding country come eggs and chickens, butter and cheese at rates that give the railroads but a small fraction of a cent a pound. Agricultural implements, the tools without which the farmer's hand would be impotent, come to

and through Kansas City in a flow that is entirely unimpeded by freight rates. The rate on a one-horse walking plow, that retails at \$14 from the Illinois manufacturing district to Kansas City is but 22 cents; and on a sulky plow, that retails at \$45, about 80 cents.

As to the rates from the East on the manufactured merchandise, the lighter articles that are found on the shelves and counters of the stores, there has been longstanding friction between the wholesale dealers of Kansas City and the railroads. When the writer entered the office of a conspicuous wholesale drygoods establishment and stated his errand to the senior member, that gentleman, with the alert and vigorous action that characterizes the progressive and successful western man of business, called in the junior member of the firm and the clerks in charge of traffic. He lined them up, introduced the writer to them seriatim, and announced the reason for the visit. He then waved his hand to a junior partner, saying with great emphasis, "You can tell him all about the freight rates of Kansas City; you can tell him what we have to contend against." The junior partner with fervor asseverated that Kansas City was the place most discriminated against in the way of freight rates in the United States; that the railroads apparently had taken particular umbrage against the city, and the shippers had endeavored to obtain relief without avail. He asserted that if the railroads would not listen to a final appeal, the citizens of Kansas City would rise en masse and secure their rights. This was forcible, but not definite, and an attempt was made to ascertain just in what respect and upon what commodities the freight rates bore oppressively. The gentleman soon admitted that he was talking about the drygoods business alone; that he was not informed as to the effects of the rates upon other merchandise. He also admitted that he was speaking only in regard to the wholesale drygoods business. Further questioning elicited the nub of the grievance to be that the rate on freight of the first class—which includes drygoods—from New York to Kansas

City was \$1.47, while from New York to St. Paul, a similar distance, the rate was but \$1.15. It was admitted that the wholesale merchants of St. Paul and Minneapolis do not compete with the wholesale merchants of Kansas City, except, perhaps, in a very limited area. When it was asked what effect a reduction in the rate to Kansas City would have upon the price of merchandise of the first class, it was admitted that on certain staple cotton piece goods, for example, the reduction of 32 cents per 100 pounds in the freight would make a difference of something like one-tenth of one per cent. of their value. When it was asked if the drygoods firm would give to the retail dealers the benefit of this reduction of one-tenth of one per cent., it was frankly admitted that it would not. The reduction would, however, make a difference of a great many dollars a year—several thousands doubtless—in the freight bills of the Kansas City wholesalers.

The rate of \$1.47 to Kansas City is made by adding to 87 cents, the first class rate from New York to St. Louis, the first class rate from St. Louis to Kansas City, which is 60 cents. The railroads claim that the low rates from New York to Chicago and St. Louis are the result of years of strife between the railroads extending from the East to those cities, and that they apply on traffic that moves from the East to these cities in greater volume than from either of them toward any market to the west thereof; and point out that if the through rate to Kansas City be reduced the wholesale merchants of that city would obtain, what is evidently their desire, an advantage over the wholesale dealers of Chicago and St. Louis in much of the territory in which those three cities are competitive. As was pointed out in the description of the rate structure of the trans-Mississippi and trans-Missouri region, the rate between St. Louis and Kansas City determines the through rate, by way of all Mississippi River crossings, from St. Louis on the south to Dubuque on the north, to all points on the Missouri River from Kansas City on the south to Omaha

and Sioux City on the north. A reduction in the through rate from the East by way of St. Louis to Kansas City would, therefore, reduce all of the rates from the East via these various routes across the Mississippi River to the various points specified on the Missouri River, and, therefore, would reduce the through rates from the East to the area between the Missouri River and the Rocky Mountains.

The merchants of Kansas City, St. Joseph and Omaha finally joined in a formal complaint to the Interstate Commerce Commission. Sioux City intervened, asking that whatever might be done for Omaha should also be done for Sioux City. The business organizations of St. Paul, Chicago, and St. Louis intervened, defending the existent rate structure and opposing any modification that would give the Missouri River cities an advantage at their expense. The Commission decided that the Missouri River cities are not entitled to the same rate from the East as St. Paul and Minneapolis, and made no change in the established rates between the Mississippi and Missouri Rivers as applying on local traffic, but it did reduce those rates as applying on through traffic, making such proportional rate 51 cents instead of 60 cents. Because of the far-reaching effect of this reduction the railroads at once contested the decision through the courts.

It will be perceived that the entire conflict is between the competing wholesale dealers of rival cities; that it does not appreciably, if at all, affect the prices at which retail merchants can obtain their stocks from one city or another; nor does it affect the goods which the consumer will purchase from the retail dealer in quality, and to but a negligible extent, if at all, in price. It is quite evident that the Kansas City wholesale merchants are seeking an advantage over their competitors in Chicago and St. Louis, which those competitors are resisting as vigorously as Kansas City in turn is resisting the growing ambition of Wichita and other cities to her west to conduct and extend a wholesale business. The

reduction ordered by the Commission was apparently on the ground that as the railroads between the Mississippi and Missouri Rivers carry traffic to and fro between the East and the Pacific Coast for lower compensation, they can afford the reduction on the traffic moving from the East to the Missouri River, although the conditions attending that traffic are radically different from those which force the extraordinarily low rates on the transcontinental movement.

ST. PAUL AND MINNEAPOLIS

St. Paul owes its development primarily to the fact that it is at the head of navigation on the Mississippi River. This, in addition to the proximity of Lake Superior, by reason of which it obtains low through rates from the East, and that it is the starting point of railroads leading throughout the Dakotas to the far Northwest, have given it command of a distributive trade in that region. It has, moreover, always been the policy of the lines leading from St. Paul to the far Northwest to so adjust rates that neither Chicago, nor any other city to the East, can have any advantage over the St. Paul jobbers in the northwestern territory on traffic that passes through St. Paul, the rate from St. Paul even to Utah, for example, being as low as the rate from Chicago to Utah. The Mississippi River is an active factor in the commerce between St. Paul and St. Louis, and therefore forces the rail rate between these cities to a lower level than that applying in this region generally. If there are any grievances as to the railroad rates affecting the commerce of St. Paul, they are but of minor importance, affecting individual shippers, the kind of inequalities which the railroads are willing to remove if possible.

Minneapolis, a newer city especially devoted to the milling interests, is as yet but an indifferent rival of St. Paul as a wholesale center, and is therefore rather inclined to be radical in seeking readjustments of rates

in order that her jobbers may extend the area of their markets. For instance, to places in southern Minnesota and the Dakotas directly penetrated by through lines from Chicago that extend to the south of the Twin Cities, the rates give the wholesalers of Chicago something of an advantage over those of the Twin Cities. This advantage St. Paul does not contest, thinking it logical that Chicago should have it. Minneapolis, however, is striving for a readjustment. It is even suggested in Minneapolis that the rail rate to that city from the East should be as low as to St. Louis, because the lake and rail distance from New York to Minneapolis is less than the lake and rail distance from New York to St. Louis.

The rates in which Minneapolis has the most interest are those on flour. On flour that goes from Minneapolis via Duluth and lake to Buffalo the vessels obtain seven cents per 100 pounds, while they carry grain for one cent and upwards per bushel, the seasonal average being about three cents. Although grain can be loaded in bulk and the expense of loading and unloading is much less than that of flour, the milling companies think that this difference, which materially favors the competing millers of Buffalo, is so wide as to be unjustifiable. The all-rail rate on flour from Minneapolis to New York is 25 cents per 100 pounds, and up to 1898 the rate by lake and rail averaged 20 cents. The difference of 5 cents per 100 pounds, amounting to 10 cents a barrel, gave an advantage to the Minneapolis mills over those of other northwestern cities that can not so readily avail of the lake route. In 1898, through the lake and rail rate being increased by two cents, the difference was reduced to three cents, and in 1900, through the lake and rail rate being increased another one cent per 100 pounds, the difference was reduced to two cents. These published rates did not for a time particularly concern the millers, as they made special contracts with the railroads for low rates. The possibility of such arrangements having come to an end, the Minneapolis millers are seeking

concessions that will tend to restore their former advantage.

DENVER

It is easy to forget that Denver but a generation or so ago was no more than a health resort on the Colorado plateau. The purity of the air, excellence of the climate, fertility of the contiguous soil, and the wealth of the ore deposits in the near-by mountains, attracted a population which, in line with that progress characteristic of a developing city, established retail stores, then certain lines of manufacture, and then sought to extend the area of distribution, and incidentally, through the tireless efforts of one of her energetic business men, acquired a reputation throughout the country as being peculiarly the victim of an iniquitous conspiracy entered into by the railroads to burden her citizens and hamper her development. It was really, therefore, a matter of exceeding surprise for a dispassionate investigation to disclose that Denver, by the admission of the officers of her business organizations and her principal shippers, has very little grievance against the railroads as to freight rates. The peculiar location of the city midway between the Mississippi Valley and the Pacific slope, in proximity to vast areas that are being reclaimed by irrigation, gives to the commerce of Denver and of Colorado Springs, Pueblo and Trinidad, the other of the Colorado common points, peculiar characteristics that justify more extended reference than has been given to other of the cities. The channels of traffic to and from Denver are those of the great West, and the development of her freight rates has necessarily been in adaptation to those channels.

In so far as her food supply is concerned, Denver certainly is not hampered by rates of freight. The transportation charge on fresh meat and other products obtained from the packing houses within her limits is negligible, and even when she draws on the packing houses of Omaha the rate is but three-fifths of a cent per

pound for fresh meat and one-half cent per pound for packing house products, the retail price being the same whether the meat has been prepared in Omaha, Kansas City or Denver. The rates of freight from Denver allow her to supply South Dakota with fresh meat in competition with Omaha; she also supplies not only western and southern Colorado, but New Mexico and much of Texas.

Wheat comes from the Cache Valley for consumption in Denver at 35 cents per 100 pounds. It may be turned into flour in Denver, and sent through on the milling in transit privilege at an aggregate rate from the Cache Valley of 50 cents to the Missouri River, to be sold in large quantities in the Southeastern States in competition with Kansas City, Omaha, and Minneapolis. It furnishes a large portion of the supply of Texas, even along the Mexican frontier, 1,200 miles away.

Butter comes from Kansas and Nebraska in refrigerator cars at a trifle less than one cent a pound, and chickens, likewise in refrigerator cars, at a trifle more than one cent, the transportation charge not affecting the retail price. Eggs come from Kansas at an average freight rate of a trifle over one cent a dozen, cheese from the Colorado dairies at about one-third of a cent a pound. A ten-pound package of coffee from New York will have paid the railroads 7.9 cents; ten pounds of sugar from northern Colorado one cent, or loaf sugar from New York 8.1 cents, or from California 6 cents. The railroads have made rates on the beet sugar of Colorado that encourage its shipment to the widest markets, the rate to the Missouri River being 25 cents, to the Mississippi River 30 cents, and to Chicago 35 cents, per 100 pounds. Tea is brought from China to Denver and the entire region to its east at $1\frac{1}{2}$ cents per pound; rice from Japan to Denver at 65 cents per 100 pounds.

Potatoes come from northern Colorado at a freight rate of 12 cents per 100 pounds. This cannot be called

low, but some consideration must be given to the fact that to enable this region to supply Kansas and Nebraska with potatoes it is accorded a rate of 35 cents to the Missouri River. The supply of potatoes for Oklahoma and Texas moves from the Colorado field at rates that vary from 51 to 54 cents. New potatoes in the early spring are brought from California to Denver at 75 cents per 100 pounds; the other fresh vegetables come from near-by truck farms at freight rates that make no difference one way or the other to the consumer, and do not burden the producer. Celery is shipped to both Chicago and New Orleans. Peaches, pears, and apples are shipped from the Colorado orchards to Chicago, St. Paul and the interior generally at \$1 per 100 pounds. Dried fruits, raisins, prunes, and figs move on this rate of \$1 from Grand Junction to the same regions. The canned goods of Colorado also penetrate to the eastern markets, Colorado peas being a delicacy on bills of fare as far as Boston. These canned peas and canned small fruits, such as red raspberries, cherries and gooseberries, pay a rate of 35 cents per 100 pounds to the Missouri River, 50 cents to the Mississippi River, and 55 cents to St. Paul—rates that permit them to be sold in competition with the canned goods of any other locality. Five years ago the canned tomatoes consumed in Colorado were imported from Wisconsin, Indiana and Baltimore. Now the State not only cans almost all of the tomatoes consumed within her limits, but supplies Montana, Utah, New Mexico, and Texas.

New household furniture will likely come from Chicago, whence it pays a freight rate of \$1.10 per 100 pounds. That is, a bed weighing 200 pounds will have paid the railroads \$2.20; a dining-room suite of table, four chairs and a sideboard, weighing 700 pounds, \$7.70, and a parlor suite of sofa, table, and four chairs, weighing 500 pounds, \$5.50. Furniture of the incoming settler, however, whether new or old, is brought from Chicago as immigrant movables at 47½ cents per 100 pounds.

The coal used in the city of Denver for domestic purposes comes largely from coal fields within 18 or 20 miles of the city at freight rates of 80 cents per ton on lump coal, and 60 cents a ton on slack coal. These are undeniably high rates, but no more is charged from the fields 50 or 60 miles away, and the rate on coal for steam and manufacturing purposes from fields 200 miles away is \$1.60 per ton. The brick used in Denver is made in the city. Portland cement made at Portland, Colorado, comes at 6 cents per 100 pounds or from Iola, Kansas, a distance of 530 miles, at 15 cents per 100 pounds. Yellow pine lumber comes from Louisiana at from 34 to 40 cents per 100 pounds; cedar, fir, and beech from Oregon, Washington, and Idaho, at from 50 to 60 cents; hickory and oak from Mississippi, Missouri, and Tennessee, at rates ranging from 32½ to 40 cents. Building stone is right at hand on every side, and is shipped throughout Kansas and Nebraska, the rates to the Missouri River being but 20 cents.

Clothing, generally speaking, is sold at prices that do not range a great deal higher than those of the cities to the east. The freight rate is \$2.30 per 100 pounds from New York, a suit of clothes weighing 8 pounds, therefore, having paid the railroads 18 cents, which is but 6 cents more than it would have paid at Kansas City. A pair of shoes will, perhaps, have paid 3 or 4 cents. The rate on cotton piece goods is \$1.53 per 100 pounds from New York, the transportation charge on 10 pounds—which approximates 60 yards of cotton sheeting—therefore, being a trifle over 3 cents. It is fairly well authenticated that a customer once said to a Denver haberdasher that a necktie for which he was asking \$1 could be purchased in Chicago for 50 cents, to which the dealer replied, "But look at the freight rate!" It happened that this customer was the traffic manager of one of the western railroads who knew that the freight rate on that necktie from New York was not more than one-third of a cent.

Colorado is nearly self-sufficient in the production of



machinery. She makes her own rails, rolls, castings, cores, wire nails, and bar iron. She not only makes the mine cars and hoisting machinery used in her mines, but ships mining machinery to Mexico, South Africa, Japan, Russia, and Australia. The cost of production of this machinery is somewhat greater than in the eastern factories because of the higher transportation charge on the raw material, which is brought from greater distances, but this does not seem to restrict the markets. That the mineral products of Colorado move to the widest markets without impediment from transportation charge is beyond question.

In short, Denver enjoys a freight rate adjustment that permits the sale in wide markets of the products of Colorado, whether of the soil or manufacture, and that brings to her citizens the commodities of daily need at a transportation charge so low that their prices in the majority of cases, for any effect of the freight rates, need be advanced but little, if at all, above the prices at the places of production.

The relation of the freight rate adjustment to the wholesaling of products of eastern manufacture, or to the bringing from the East of raw material to be manufactured in Denver in competition with eastern factories is another matter. As her merchants wanted their rates adjusted to enable them to reach a wider area, the railroads, knowing that the people of the adjoining States and territories would be supplied with merchandise from the eastern factories, whether jobbed from Chicago or St. Louis or the Missouri River, and knowing that any concession accorded to Denver that would militate against shippers of Chicago, St. Louis, Kansas City or Omaha would be bitterly contested by the merchants and manufacturers of those cities, did not hasten to give the merchants of Denver what they wanted just because they wanted it. One of the concessions which the Denver Chamber of Commerce asks of the railroads is that Denver be made a "basing point," that Colorado common points be placed on a "basing line,"

To ask that Denver be made a basing point in general without bringing to bear upon the railroads any considerations in the way of increased traffic or increased revenue is, of course, a different proposition from presenting to the railroads such irresistible arguments of particular rates on particular commodities which Denver can wholesale with advantage to the railroads as well as to herself. This latter procedure has gained and is gaining many readjustments of benefit to her dealers, the traffic expert in their employ having in but a year and a half obtained reductions in rates throughout Arizona and Texas; into the Black Hills; to stations in Wyoming, Idaho, and Montana; to stations in western Nebraska, Nevada, and Mexico. These reductions in many instances give the Denver shippers an advantage over those of the Missouri River cities, and in other instances place them upon a parity with those shippers.

This development, which tends more and more to bring the freight rates affecting the commerce of Denver into the closest adaptation to the needs of that commerce, is fairly typical of the development in the freight rate adjustments that affect Cheyenne, Albuquerque, El Paso, and other growing centers of the Rocky Mountain region. It is significant that the wholesale merchants of Denver think that the freight rates favor Salt Lake City, while the latter thinks that the rates favor Denver. The fact is that rates have been made the same from both cities throughout a considerable area of Idaho and Wyoming.

To the smaller settlements in the interior of the as yet sparsely populated Rock Mountain district, especially over branch railroads built and maintained through mountainous regions at great expense, the local rates are higher than in other portions of the country, entering to a greater extent into the price paid for merchandise by the consumers.

HELENA AND BUTTE

Butte is another city whose merchants desire to enter the wholesale field. Heretofore, as is always the case in mining towns, where money is easily made and easily spent, little consideration has been given to the rates of freight. The merchants have purchased what their customers wanted and paid the freight. Their customers have purchased to meet their requirements at prices willingly paid, and which have yielded high profits to the dealers. But the city is now outgrowing the swaddling clothes of a western mining camp under the stimulus of a movement to give it rank as a municipality of organized enterprise. One feature of this is the scrutiny of the freight rates to ascertain their relation to potential wider markets.

Helena, however, will not easily relinquish her prestige as a distributing center, the retail dealers of Montana, who do not purchase their supplies at St. Paul, usually patronizing the jobbers of this city, which is contiguous not only to a developed mining region, but to ranches on which cattle and sheep are still grown by the thousands. Wheat is also raised in the Gallatin Valley, which, however, does not produce sufficient for the adjacent mills. This has led the farmers to form "Societies of Equity," through which it is attempted to obtain from these mills a price equal to that which the millers have to pay for wheat of other sections, plus the freight rate therefrom to the mills.

THE SOUTH AND SOUTHEAST

The traditions of the South are those of a country devoted to agriculture. Although the industrial agents of the railroads during recent years have attracted many manufacturing establishments to the territory penetrated by their lines, there are not as yet many kinds of products that are sold in widespread markets. The cotton mills of the Carolinas produce fabrics that compete with

those of New England throughout the country generally, and in foreign markets with those from the mills of any country; the furnaces and iron mills in Alabama sell their surplus products north of the Ohio and west of the Mississippi Rivers; and the furniture factories of various localities are sending the grades which they make to both northern and western markets. Aside from the carrying of these products to markets the transportation lines of the South, with few exceptions, are especially concerned with the conveyance of the products of the soil to the markets where the fruits and vegetables are consumed, and the raw material converted into forms of use; and with the distribution throughout the South of the foodstuffs of the West and the manufactured merchandise of the East, and of the cities on and to the north of the Ohio River.

When, however, it is stated that the South has not attained to manufacturing in varied degree, an exception must be made of Richmond, Va., which has been transformed in but little more than a dozen years into a conspicuous manufacturing as well as a prominent distributing center. This city has the benefit of the same low Trunk Line rates from the West as Baltimore, and, therefore, can obtain raw material of various kinds as cheaply as the industrial cities of the North Atlantic seaboard. It has the advantage of water transportation, and correspondingly low rail rates to and from these cities, therefore being able to obtain their products at freight rates that are held to the lowest level. It has the benefit of water communication and correspondingly low rail rates with the southern Atlantic ports, and the interior tributary thereto, through which it is therefore enabled to distribute the products of its own manufacture, as well as those secured from other sections, at rates that are at a low level. The merchants and manufacturers of Richmond are well aware of their blessings in this respect. This city, supplied with water power by her rivers, is the seat of extensive tobacco manufacture; makes a large proportion of the

nails and horseshoes used in the South; by far the greater proportion of the blotting paper used in the United States, and is making progress in other lines of manufacture that may lead to her becoming no mean rival of the older industrial centers to her north. As a commercial center she contests the supremacy of Baltimore throughout Virginia, a large portion of the Carolinas, and competes with Cincinnati and Louisville in eastern Kentucky and Tennessee.

The freight rates permit Wilmington, N. C., to draw cotton from the interior in competition even with Savannah. Her merchants buy this cotton on the plantation, put it through their own compresses and export it in vessels which they have chartered, their enterprise making Wilmington a port of consequence in the export of cotton, as it is in the shipment of naval stores, the resin and turpentine from the Carolinian forests.

After the Civil War, Charleston was slow to resume the export of cotton largely because of the establishment of cotton mills in the interior, which largely absorb the cotton from the plantations formerly and logically tributary to Charleston. This city is the largest market for sea-island cotton, the center of the fertilizer industry and of a developing region of truck farms. Of recent years the railroads have made adjustments in the rates in the interior country in which Charleston merchants may naturally expect to conduct a wholesale trade, and have accorded as low rates on the western foodstuffs, for export traffic, from Chicago, as from Chicago to Norfolk, the distance being about the same.

Savannah is in a condition of happy content with the freight rates. They permit her to draw from vast areas cotton and lumber, which are carried by great lines of steamboats to foreign ports. Merchandise from the East is brought to her stores and warehouses almost entirely by the coastwise steamers and distributed throughout a wholesale area extending into Florida and Alabama as well as throughout Georgia.

The merchants and manufacturers of Atlanta, the

great interior distributing center of the South, have no complaint of consequence in regard to freight rates. They are so adjusted that she can obtain the materials and the products of the West, the North and the East, and can distribute them throughout a wide area. The city does not have the milling in transit privilege on wheat enjoyed by the competing city of Nashville. This was accorded Nashville long ago, and the railroads say they cannot abolish it now because the mills of that city have been established and are largely sustained by the privilege which, however, the railroads do not care to extend.

Memphis, the largest inland cotton center of the United States, is the natural point of concentration for the cotton of southern Missouri and Arkansas, part of Louisiana and Texas, and of northern Mississippi and western Tennessee. It is shipped to the Atlantic seaports, to the mills of New England, and for export to the Gulf at rates that have been established through years of adjustment, and are not the subject of complaint. Memphis is also the greatest hardwood lumber market in the world, being the natural point of concentration for logs and lumber from vast areas of the timber lands to its west and southwest. The rates on this commodity do not impede its shipment to any logical markets. Memphis is also a principal gateway for the distribution of the foodstuffs of the West throughout the Southeast, and a center for the distribution of general merchandise throughout an extended area of Missouri, Arkansas, Kentucky, Tennessee, Mississippi, and Louisiana, being a strong competitor of St. Louis for the trade of a great part of this region.

The merchants of Montgomery, Ala., complained to the Interstate Commerce Commission because the rates on certain merchandise from the North are lower to Mobile and Pensacola than to that city. This is a case of charging less for the long than for the short haul, which the railroads say is justifiable because of the water transportation down the Mississippi to New Orleans,

and thence to Mobile and Pensacola. The Commission upheld this contention, but ordered a reduction in certain rates that were higher to Montgomery than the rate to the Gulf, plus the rate from the Gulf back to Montgomery.

Mobile and New Orleans obtain high class merchandise from the North Atlantic seaboard by water. Their grain and grain products, meat and meat products and many manufactured articles from Chicago, St. Louis and Memphis are brought down at low rates because of the water transportation made possible by the Mississippi and the Gulf. The rates are the same from these cities to Mobile and to New Orleans, the competing railroads extending down the Mississippi Valley to the respective ports insisting that the freight rates be no greater to one than to the other.

Each of these cities thinks the other has certain advantages in the way of rates that restrict the markets of its wholesale merchants in competition with the wholesale merchants of the other. There is no complaint, however, as to the rates on the commodities that flow to and through these cities in great volume; that is, none that are serious. Certain of the dealers in New Orleans rather think that instead of meat and meat products being exported over her wharves at through rates made from the packing houses in the North and West, the rates should be so adjusted that these products can be handled by, and pay toll to, the dealers in New Orleans. The growers of rice now and then contend that as their products in a measure come into competition with flour, the rates ought to be as low as those on flour. As they are, however, the distributive rates on rice are but slightly higher than the rates on flour, a commodity which forms a far greater proportion of the total volume of traffic, and are generally satisfactory. New Orleans and New York are the chief receiving ports and distributing centers for the sugar of the West Indies and the coffee of South America, which move upon

rates that are the source of complaint only in exceptional and negligible instances.

OKLAHOMA

When Oklahoma was opened to settlement the railroads scrambled to cover it with their tracks in very much the same way that the settlers scrambled to take possession of the homesteads, with the result that the tracks at first laid had little or no ballast, and the roads generally were not in good condition. This was doubtless a factor in the marked antagonism to the railroads which led to extraordinary powers being given that State's Public Corporation Commission. The chairmanship of this body was conferred upon a cattle man of admitted physical prowess, the hero of many characteristically western adventures. He once manifested the playfulness of his disposition by marching a barber, who had not pleased him, up and down the streets of the town with a revolver at the point of his nose. The sentiment of the State was so very radical that its business men formed an organization for the purpose of bringing about a more conservative tone, and fair play for the railroads, whom they generally admit had not been flagrantly aggressive. This movement has had good effect even upon the redoubtable chairman of the Public Corporation Commission, who is reported to have said to a party of railroad officers, "We are all men together; we are willing to spread out a blanket and sit down on it with you and talk things over any time."

In the eighteen years of its existence Oklahoma City has attained a population of 60,000, and its physical characteristics are those of an entirely modern municipality. The wholesale merchants sell groceries within a radius of 50 or 60 miles; hardware, agricultural implements and drugs throughout the State, as well as into the Pan Handle of Texas. The rate on merchandise of the first class from New York by vessel to the

Gulf ports and thence by rail to Oklahoma City is \$1.25 per 100 pounds, which permits a certain wholesale distribution of the high grade merchandise. Agricultural implements come principally from St. Louis, a two-horse walking plow, weighing 300 pounds and retailing for \$24, having paid a rate of \$1.80 from that city.

Oklahoma City mills grain which it draws largely from Oklahoma and Kansas, distributing the product throughout the State, in Texas, Arkansas and Louisiana, and to a limited extent east of the Mississippi River and in Mexico. Rates throughout the State on grain and grain products are adjusted on a mileage scale which is about as low as that applicable in Illinois. To places outside of the State these shipments are handled under the milling in transit privilege. In Oklahoma the railroads have taken the side of the millers in that conflict which is quite general between the rates on wheat and rates on flour. Notwithstanding that grain can be more readily carried and a car be loaded to its capacity of wheat, while it will not carry more than 24,000 to 30,000 pounds of flour, the rate on flour has been made the same as on wheat. An exception is made on shipments to Texas, which insists upon the interstate railroads making their rates into that State 5 cents lower on wheat than on flour: this is because there are numerous mills in Texas, but the State does not produce enough grain to keep them actively employed. The Texas Railroad Commission thus protects the Texas millers who are at the consuming end of the rate, at the expense of the millers in other States who are at the producing end of the rate, this difference of 5 cents just about placing the distant on a parity with the nearer mill. It is admitted that no other item of commerce of Oklahoma is so well taken care of as the grain and grain products.

There is even now a small packing house in Oklahoma, and the industry will doubtless grow because that portion of the State which constituted Indian Territory raises corn and hogs, while the region that constituted Oklahoma Territory is largely devoted to the

growing of wheat. At this time hogs from Oklahoma are a considerable factor in the supply of the packing houses at Fort Worth and Kansas City. As the State becomes more thickly settled and the farmers more intensively cultivate their homesteads, they will naturally raise more of both hogs and beeves. This will accelerate the development of the packing industry of Oklahoma City, bringing still more favorable adjustments of the freight rates which are now fairly equitable.

Oklahoma produces oil, as do Kansas, Colorado, and Texas. The producers of each State desire to market both crude and refined oil in the cities of the other States, while from their respective intrastate markets they desire to keep away the oil of the other States. The oil consumers, however, of each State desire to have the benefit of the competition of the oil from each of the other States. The railroads have, therefore, been besieged to reduce their rates from Colorado, and then the rates into that State from the wells of Kansas and Oklahoma, because those rates are too high compared with rates from Colorado; then Oklahoma applied for lower rates into Texas, and both Kansas and Texas for lower rates into Oklahoma. A pipe line carries crude oil from Oklahoma to the Texas refineries, and the Public Corporation Commission has made low rates on the refined oil marketed throughout the State.

Manufacture has begun in Oklahoma with the making of cottonwood into egg crates, butter boxes and fruit boxes, which are sold throughout the South and Southeast. The city also manufactures wire chicken coops, which are distributed throughout the western poultry region.

TEXAS

Under the Texas Common Point System of freight rates, which has been described at some length in a previous chapter, the freight rate adjustment affecting the commerce of one is so nearly like that affecting the commerce of another city that there is little occasion

for reference to the traffic of individual commercial centers.

A modification of the Texas Common Point System has been made to allow the merchants of Dallas to compete with those of Texarkana. That place was given rates from New Orleans and other cities but slightly higher than those which were applied to the neighboring city of Shreveport because of the steamboats that formerly reached that city via the Red River. The rates made by the State Commission of Arkansas also enabled Texarkana to obtain merchandise at low rates from Memphis. These adjustments so affected the trade of Dallas that it was granted rates less than those applying throughout Texas in general that its merchants might compete with those of Texarkana in the northwestern corner of Texas and its vicinity. The rates of Paris, also a rival commercial center, were likewise adjusted to enable it to compete with both Texarkana and Dallas. These and other adjustments have extended to their general satisfaction the area reached by the Dallas wholesale dealers: a dozen years ago its radius was but forty or fifty miles, while it is now one hundred or more.

The millers of Ft. Worth were at some disadvantage while the elevation privilege was accorded to Kansas City, but its cancellation makes their grain rates entirely satisfactory. This city now sells agricultural implements in New Mexico and Arizona under rates that have been reduced to enable the dealers of Texas to compete in this region with those of Kansas City.

The city of Galveston, for several years, bitterly contested the specific differences in freight rates applying between that city and Houston, urging that Galveston be made an initial point of application of the scale of intrastate rates that is general throughout Texas. It finally brought suit for the abolition of the difference as applied to the line leading from Galveston to the Southwest without passing through Houston, and obtained a favorable verdict in the District Court, which was sustained by the Court of Appeals. Appeal was

thence taken to the Supreme Court of the State, which has enjoined the collection of this difference on traffic from Galveston that goes over this line. As Galveston and New Orleans are both ports on the Gulf of Mexico, through either of which traffic may be consigned from a considerable area of the interior, there has been an equalization of the rates on some commodities to these ports. For example, the maximum rate on rice from the Texas rice fields to Galveston, as fixed by the Texas Railroad Commission, is 19 cents, and the same rate applies to New Orleans. (See page 131.)

THE PACIFIC COAST

The commerce of the cities of the Pacific slope has been fairly indicated in the description of the freight rate structures applying to the transcontinental traffic. As there stated, the rates under which the products of California are distributed throughout the East are, as a rule, satisfactory to her producers. This is also the case in the far Northwest, with the exception of the lumber rates.

As the various Pacific ports from San Diego to Seattle receive merchandise from the East at rates that are the same to each port, the wholesale merchants of the various terminal cities are on an exact equality in so far as the inbound rates are concerned. Their competition, therefore, is in the distribution to the markets of the interior. Broadly speaking, the seaports of importance are separated by such long distances that the wholesale merchants of each city make distribution throughout a fairly well defined area that is recognized as tributary to it.

The disaster which overwhelmed San Francisco gave an exceptional stimulus during the period of its recuperation to the trade of Los Angeles, and this city is now endeavoring to have the freight rates to places in the San Joaquin Valley so adjusted that it can compete with the older city for the trade of that section. The railroad

companies state that the lower rates apply from San Francisco because of the haul along level tracks, while the higher rates from Los Angeles are necessitated by the expensive movement over the mountains. They likewise decline to antagonize the long established wholesale interests of San Francisco as well as to suffer a reduction in their revenue by reducing the rates from Los Angeles. This latter city is also endeavoring to obtain the trade of the Nevada gold regions, which has been with the older city.

The fact that San Francisco retains its prestige as the commercial metropolis of the central and southern reaches of the Pacific slope is strikingly manifested in that it is still the headquarters of the salmon shippers, although Seattle has been striving to wrest the supremacy. The vessel owners obtain their outfits in San Francisco in April and May, and embark then for the Columbia River with the Chinese laborers, the material for boxes, the fishing implements and provisions sufficient for the entire season. After spending the summer in the fishing waters and at the canneries, they return in the latter part of August, or in September, with the canned fish, which is shipped from San Francisco to England, and by rail throughout the Eastern States.

The practice of the transcontinental railroads in making rates from the East to interior cities and towns on the Pacific slope the sum of the rate to the Pacific terminal plus the rate from the Pacific terminal to the interior town, provided that the rate so made be less than the rate made on the normal basis from the East to such interior towns, in the past years has been the source of much complaint on the part of these interior towns. This complaint, however, was largely stilled by the ruling of the Supreme Court of the United States that the basis is justifiable. The fact is that it gives these interior towns the full benefit of water competition. Their rates are less than they would be if the existence of the ocean did not lower the level of the Pacific terminal rates. Their rates are just what they would be if,

instead of their being served by the railroads extending across the continent, they were obliged to rely upon the service of a railroad extending into the interior from the Pacific terminal. This situation has become fairly well understood by the residents of the Californian interior, and is no longer the subject of general complaint.

The city of Spokane, however, has never been satisfied with its status in this respect, largely because of other factors which have complicated the conditions affecting that city. It was a complainant before the Interstate Commerce Commission during the earlier period of that body's existence, and the renewal of its complaint was the first case to appear upon the docket of the Commission after the Hepburn law became effective. Spokane, however, although on the western slope, is not simply a town of the Pacific interior, as that designation ordinarily indicates. The surrounding country throughout a vast area is of such fertility that it is known as the Inland Empire. That it may fulfill its logical function as a distributing center for this region, rates lower than those applying to the Pacific terminals have been made to Spokane on merchandise from the Missouri and Mississippi Valleys and other sections of the interior that are not immediately served by vessel lines to the Pacific Coast, as is the Atlantic seaboard. It is interesting to find that while the wholesale merchants of Spokane insist that they should be accorded lower than Pacific terminal rates on all merchandise from the East, in order that they can compete with Seattle toward the West, the wholesale merchants of Seattle insist upon the justice of the application from the East to Spokane of the rates that are constituted by adding to the rate to the Pacific terminal the rate therefrom to Spokane. This adjustment, of course, gives the Seattle wholesale dealer an advantage over his competitor at Spokane in the intermediate territory. It has been modified by the decision of the Commission that although water competition modifies the rates from the Atlantic seaboard to Seattle it does not affect the rates from Chicago and

St. Paul to Spokane. The reductions ordered in both classes and commodity rates from these cities will enhance the importance of Spokane as a distributing center.

THE SITUATION AT INDIANAPOLIS

As has been shown by the complaints made to the Interstate Commerce Commission, and by the survey of the commerce of the cities, the results of which have been embodied in the preceding pages, the communities that, as a rule, are dissatisfied with the freight rate adjustments are not those whose natural advantage of location and whose economic strength have led to their becoming established commercial centers. When complaints have come from such centers they have not, at least in recent years, been in regard to the rate structure affecting the commerce of the city in general, but of certain particular rates. The list of community complaints on page 296 contains the name of no town or city of New England, none in the Trunk Line territory, and but one in the Central Traffic territory. The complaints, both from the South and from the West, are mostly from inconspicuous towns that are without any considerable degree of economic strength. That moulding of the freight rate structures which are, on the whole, admirably adapted to facilitate the flow of traffic, has been under economic influences which have acted upon the railroads with far greater power than the railroads have reacted upon them. As we have learned, however, there are certain lines of cleavage between the sections in which the regional rate structures respectively apply—and there is undeniable inconvenience in the adjustment of rates on inter-regional traffic that necessitates the use of different and divergent classifications. It is evident that were every conceivable disturbing element a factor in the rate adjustment applying to the commerce of any one city, the merchants and manufacturers of that city would doubtless consider themselves aggrieved. That these factors do focus with

perturbing effect upon a particular city is quite true, and it would seem to be the irony of fate that it is one of the fairest in the land.

That city, however, does not owe its location to any industrial or commercial advantages. When it was sought to establish a capital for the newly admitted State of Indiana, a site was selected almost exactly in the center of the State. The "Governor's Mansion" was erected in a circular plot in the center of the settlement, and a plan of streets staked out, the thoroughfares six squares from the circle in each direction being designated as East Street, West Street, North Street and South Street, to indicate the extreme limits to which under the fondest hopes then entertained the city might reach. Because of its central location the railroads between Chicago and Cincinnati and Louisville, and between St. Louis and the East, naturally intersected at Indianapolis, which therefore became a railroad center, and, hence, a distributing point for the towns and villages of the surrounding counties.

There was no material in Indiana for manufactures, unless coal from the fields in the southwestern counties be so designated. But from time to time the industry and the ambition of one and now another of her residents led to the development of an artisan's shop into a factory. The products naturally and necessarily were not such as grow out of the assemblage of vast quantities of raw material, but those dependent upon ingenuity and skill of workmanship. Thus developed the manufacture of vehicles, saws and other tools, and of certain high grade machinery; and the growth of livestock in the adjacent regions led to the establishment of a packing house. The products of these establishments, and other articles, found markets in Indiana and elsewhere, the freight rates not being given particular consideration, as they did not measurably restrict their sale.

Fifteen or more years ago, however, after the discovery of natural gas in central Indiana, glass and tin plate factories were erected in the natural gas belt; the

State progressed in manufacture and in ambition. The manufacturing establishments of Indianapolis did not radically increase in number, but the existing concerns vastly increased in extent and output. They sought to widen the area of their markets even in competition with Chicago and St. Louis, and the wholesale merchants were no longer content with the patronage of customers of the surrounding towns.

This led to a scrutiny of the freight rates, developing many cases in which the rates per ton per mile from Indianapolis to distant markets are higher than for similar distances from other long-established manufacturing and distributing centers that originate great volumes of traffic. This can be partly and broadly accounted for by the fact that Indianapolis is not served by any navigable waterway, as are its overshadowing neighbors, Chicago, Cincinnati, Louisville and St. Louis. It can be accounted for partly by the fact that Chicago, Cincinnati, Louisville and St. Louis are each an initial point of lines leading to the West and leading to the South upon which the manufacturers and merchants of these cities bring pressure to bear for rates that will inure to the benefit of their trade. The commercially and industrially weaker city of Indianapolis, pocketed between these communities that were of established might while she was yet but the capital town of an interior State, can exert no such economic demand.

Its shippers are subjected to annoyance growing out of the fact that although the city is in the territory in which the Official Classification applies, it is so near the dividing lines that its shipments to the West have to be made under the Western Classification, and to the South under the Southern Classification.

The railroads do not attempt to contest the obvious facts, but broadly claim that the freight rates to Indianapolis permit her shipments to go to all logical markets, saying that if she desires to sell vehicles in the South in competition with Louisville and Cincinnati, or products of whatever kind in the West in competition with Chi-

ago and St. Louis, and to do so is obliged to absorb the difference in the freight rates, which at the most are but a small item in the marketing of such products as she makes—she only does what other cities have to do to overcome their handicaps, what they naturally ought to do in order to enter markets already served by competitors of greater economic strength. They call attention to the fact that Indianapolis benefits by the Trunk Line Percentage System on East and West bound traffic, and that to change its percentage of the New York-Chicago rate would disturb other rates.

The railroads point out that the commodities which Indianapolis needs to bring from other places, for the use and consumption of her citizens, are carried to her portals at rates relatively as low as to any of the cities of the traffic region in which she is located; that in so far as the transportation charge is concerned, the retail merchants of Indianapolis do not need to ask higher prices on wearing apparel, foodstuffs, furniture, or on the appliances of general use than the retail merchants of even Chicago or St. Louis or Cincinnati.

In this connection, however, the wholesale grocers of Indianapolis state that while the railroads charge 17 cents per 100 pounds for carrying sugar 710 miles from New Orleans to St. Louis, 17 cents for the 700 miles to Evansville, 17 cents for the 811 miles to Louisville, and 25 cents for the 922 miles to Chicago, they charge 25 cents for the 838 miles to Indianapolis. They state that sugar is the foremost item of a wholesale grocer's stock, that it is sold at little or no profit at the best, but that it is the main staple which attracts trade, retail grocers purchasing other merchandise where they obtain sugar. These wholesale grocers of Indianapolis are especially incensed because rates were increased on sugar to their city, while no increases were made to the other river cities named, whose wholesale dealers are thereby given an increased advantage over their rivals at Indianapolis for the trade of the competitive area. The railroads point out that the sugar rates cannot be made

higher to the cities on the Mississippi and Ohio Rivers, as they are now at the limit above which the boats would take the traffic, and that in the absence of this water competition they are not compelled to continue this low level to Indianapolis to which the present rate is not unreasonable, being one cent less for the 838 miles from New Orleans than for the 825 miles from New York.

The situation at Indianapolis is aggravated by local complications. One railroad system, extending throughout Ohio into Indiana, has made effective over its lines to the east and south of Indianapolis the scale of local rates decreed for Ohio by the legislature of that State. Other of the Indiana lines adhere to the older scales under which rates are somewhat higher, except that on that portion of their lines east of Indianapolis they have met the rates of the line that applied the Ohio scale as far as that city. As even the railroad system carrying the Ohio rates as far as Indianapolis has not applied those rates to such of its lines as extend from Indianapolis to St. Louis, there are at least two scales of local rates effective in Indiana. A wholesale dealer of Indianapolis, therefore, finds his freight charge, for example, for thirty-five miles in one direction higher than for forty miles in another direction. While it is quite true that the same rates apply over the different lines to a point east of the city, and that the rates are the same by the different lines to a point west of the city, it is difficult for a shipper to see why there should be the different scales. The railroads of Indiana, aware that if some uniform and satisfactory adjustment is not made of these intrastate rates the legislature will likely, as the State Railroad Commission has already attempted, decree still lower rates than any now in effect, have endeavored to come to an agreement. Certain of the railroads of the State, whose lines are not in the great traffic channels, are, however, not inclined to reduce their local rates to the level of those of the great systems

carrying a large volume of through in addition to their local traffic.

Another phase of the situation is also vexatious to the wholesale merchants and the manufacturers of this city. Because of the river communication between both Cincinnati and Louisville and St. Louis, the direct rail lines between those cities have been obliged to make rates that will enable them to secure traffic in competition with the boats. If the lines between either Cincinnati or Louisville and St. Louis by way of Indianapolis desire to carry any of this traffic, they must do so at the water-forced rates in effect by the direct line, and these in some cases are lower than the rates from Indianapolis to St. Louis. This naturally gives an advantage over Indianapolis to the shippers of Cincinnati and Louisville who send merchandise to St. Louis. The railroads, however, say that the rates from Indianapolis to St. Louis are not unreasonable; that the fact that lower rates are in effect from Cincinnati and Louisville is because of the geologic forces that determined the course of the rivers; that inasmuch as such of this traffic as they can obtain at competitive rates more than pays the immediate outlay because of such traffic, it is good business for them to take it. The continuance of the Indianapolis lines in this traffic does not hurt that city: their retirement from that traffic would not help that city.

CHAPTER XXIII

A COMPARISON OF THE RAILROADS WITH THE AGRICULTURAL AND MANU- FACTURING INDUSTRIES

THE foregoing chapters have treated principally of the freight rates of the railroads from the exterior viewpoint of their effect upon the commerce of the country: that is, in their service to the industrial and commercial agencies. It remains to consider the freight rates as a factor in the revenue derived by the railroads from the performance of transportation and the relation borne by this revenue to the maintenance and extension of the railroads; that is, from the interior view point of the effect of the service of the industrial and commercial agencies to the railroads.

The three material functions that are vital and essential to the social organization are those of agriculture, manufacture, and transportation. They are as vital and essential to the social organism as are the heart, the stomach and the lungs to the processes of the body. It is imperative that the nourishment absorbed by the body, as a whole, be distributed to the heart, the lungs and the stomach to renew their tissue and to maintain the energy with which each contributes to the welfare of the body, as a whole. So also is the national welfare promoted by each industry under justly economical administration obtaining adequate return over expenditures to provide for its effective maintenance and operation, and to attract capital sufficient for its continuance.

One test of the efficiency of the railroads as a factor in the social organism is that gained by a comparison of the relative parts performed in the material activity of this country by agriculture, manufacture and the railroads. At first glance, there would seem to be difficulty in the

way of obtaining a comparison adequate for effective deduction. As, however, the foot is the unit of measure of length and the pound the unit of measure of weight, so also in this country the dollar is the unit of measure of value. In every industry—in agriculture, manufacture and transportation—there must be capital and capital is measured by dollars. There must be expenditure, and expenditure is measured by dollars. There must be gross earnings and net returns, and the gross earnings and the net returns are measured by dollars. There must be workers in each industry, and their salaries and wages are measured by dollars. With the dollar is measured the value of such dissimilar things as a ton of iron, and a physician's visit. That is, if the price of one is twenty dollars, and the fee for the other two dollars, their relative value is ten to one. Likewise with the dollar can be measured the diverse elements that enter into the industries of manufacture, agriculture and transportation, which may not be so radically diverse as they may seem at first. Although the dollar may not be as inflexible a unit throughout time as the foot or the pound, it is a definite and exact unit of measure of value at any specified time.

The following tables express the measurement by dollars of the value of the intake and the outgo of these three branches of industry. The amounts for the railroads have been ascertained from the reports of the Interstate Commerce Commission for the years 1905, 1900 and 1890; for manufactures, from the census of 1900, the census of 1890, and the special census of manufactures for 1905; for agriculture, from the census of 1900, the census of 1890, and the reports in the year book of the Department of Agriculture for 1905. These latter reports have been analyzed and criticised by statisticians of the Division of Agriculture of the United States Census and subjected to certain modifications in accordance with estimates made by them. In the comparisons based on these tables, the returns for 1890 are not used, as the census figures for that year are admittedly in-

complete and the statistics of the Interstate Commerce Commission are not so highly developed as for later years.

MANUFACTURES

	1905	1900	1890
Capital	\$13,872,035,371	\$9,817,434,799	\$6,525,156,486
Number of salary and wage-earners	6,718,618	5,705,165	4,712,622
Gross value of products...	16,866,706,985	13,004,400,143	9,372,437,283
Cost of materials used....	9,497,619,851	7,345,413,651	5,162,044,076
Total salaries and wages...	3,623,589,623	2,726,045,110	2,283,216,529
Miscellaneous expenses....	1,651,603,535	1,027,755,778	631,225,035
Net returns from products.	2,093,893,976	1,905,185,604	1,295,951,643

RAILROADS

Capitalization	\$13,805,258,121	\$11,491,034,960	\$9,437,343,420
Number of salary and wage-earners	1,382,196	1,017,653	749,301
Gross earnings	2,082,482,406	1,487,044,814	1,051,877,632
Cost of materials used....	550,657,472	384,163,670	
Total salaries and wages...	839,944,680	577,264,841	692,093,971
Miscellaneous expenses....	75,538,597	53,765,267	
Net earnings.....	616,341,657	471,851,036	359,783,661

AGRICULTURE

Capital	\$30,043,000,000	\$22,939,901,164	\$18,082,267,689
Number of farmers and farm laborers.....	10,900,000	10,381,765	8,565,926
Value of product.....	5,738,850,000	4,311,372,177	2,933,985,914
Wages paid labor.....	393,690,000	357,391,930	257,450,387
Fertilizer	61,366,300	53,430,910	38,469,598
Taxes	225,322,500	172,049,257	135,617,007
Interest on capital at 7 per cent.....	2,103,010,000	1,605,793,081	1,265,758,738
Net return to farm owners	2,945,461,200	2,122,706,999	1,236,690,184

Because of the lack of absolute returns in the case of manufactures and agriculture, deductions cannot be made from the foregoing premises that will be of the clear cut and exact nature required by an accountant in making up a balance sheet. The figures in the following comparisons, therefore, in the case of manufactures and agriculture are not to be considered as definite calculations, but rather as indications so veiled with mist that the clear-cut outlines are obscured, but yet allowing sufficient perception of form and mass to guide the pilot.

From the standpoint of the investor, the standpoint of the man whose money is in a business, the prime consideration is always what is the rate of return on the capital in that business? From the standpoint of the consumer, of the purchaser of commodities and services,

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a prime consideration is the greatest satisfaction that can be obtained for the lowest price. The interest of the nation, as a whole, is that its citizens should obtain a fair return for their efforts, and should obtain at fair prices the commodities and services which they need. To revert to the simile used in a previous paragraph, if the equilibrium of the functions of the body be disturbed, if overnutrition of one organ lead to the impoverishment of another, if the unduly accelerated functions of one lead to an impairment in the performance of another, there will, if such a condition continue, ultimately result the prostration of the body as a whole. So also it is with the social organism, the body politic.

From the foregoing table we ascertain the following to be the

NET RETURNS PER EACH \$1,000 OF CAPITAL

	1905	1900
Manufactures	\$151	\$194
Railroads	44	41
Agriculture	98	92

The most extreme modification of the tables consequent upon the completest information would not in all probability alter the conspicuous deduction from this comparison; that is, the investor looking for the greatest immediate profit in either 1900 or 1905 would have turned first to manufacture, then to agriculture, and lastly to the railroads. The tremendous development of manufactures and the enormous prosperity of the farming regions of the West confirm this deduction. If it be claimed that the low net returns to the railroads is because of their inflated capitalization the reply is made that the actual capitalization of the American railroads, including all cases of inflation, is only about \$52,000 a mile, which is far less than that of the railroads of any other country. Recent reports of the actual expenditure for construction show that it costs in this country to build one mile of railroad from \$25,000 over level country, where there are no obstacles, to over \$100,000 in

places of dense population and where construction is difficult. This does not include buildings or equipment. If it be claimed that the capitalization of the railroads is inflated, cognizance should be taken of various lines of the manufacturing industry whose capitalization was multiplied again and again at the time of the industrial amalgamations succeeding the depression that terminated in 1898, and of the fact that the values at which farming and timber lands are held in many parts of the country have doubled and quadrupled since that time.

The net returns are what remain of the gross returns after the payment of all expenses. The ratio of these gross returns and expenditures to capital is shown in the following table:

GROSS RETURNS PER \$1,000 OF CAPITAL

	1905	1900
Manufactures	\$1,216	\$1,324
Railroads	150	128
Agriculture	191	187

The excessive amount in the case of manufacture is largely due to the fact that in selling a manufactured product the manufacturer has to be reimbursed for the cost of all the elements that enter into that product, and these elements in large degree consist of commodities which, although raw material to the final manufacturer, may be the finished products of intermediate manufacture. For example, boots and shoes are a product of which manufactured leather is the raw material, manufactured leather is a product of which tanned hides are the raw material, and raw hides are the raw material of the tanner.

TOTAL EXPENDITURES PER EACH \$1,000 OF CAPITAL

	1905	1900
Manufactures	\$1,065	\$1,130
Railroads	106	87
Agriculture	75	77

In the case of manufactures these expenditures are 88 per cent. of the gross returns, the high ratio being

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caused by the high value of the products of intermediate manufacture that are included as raw material. The deduction of the value of such partly manufactured products from the gross value of the manufactured products eliminates duplication. That is, the value of manufactured leather, which appears in the gross value of products as an output of the leather factory, disappears from the net returns of the boot and shoe factory when the value of the raw material used by the boot and shoe factory is deducted from the value of its products.

In the case of agriculture, the expenditures are but 39 per cent. of the gross returns. This is due in part to the fact that the farmer's payments for raw material are low; and in part to the fact that the sun and the rain, for which he does not pay, are the farmer's most effective instruments.

The expenditure of the railroads is 71 per cent. of the gross returns, 32 points higher than the expenditure of agriculture and but 17 points below the expenditure of manufactures, even although the expenditure account of the railroads for material contains no items similar to the partly manufactured products of manufactures.

Although the labor cost is not the total cost of any industry, it is a most important factor in that total cost, and in the analysis of any business is subject to rigid scrutiny. On nearly every farm the farmer himself is an active worker, but the census returns do not show separately the farmers and the farm laborers. Therefore, the labor cost in the case of agriculture is omitted from the following tables:

TOTAL SALARY-WAGE FOR EACH \$1,000 OF CAPITAL

	1905	1900
Manufactures	\$261	\$277
Railroads	61	50

In the case of manufactures, labor received 73 per cent. greater return than capital; in the case of the rail-

roads, labor received 38 per cent. greater return than capital. The ratio of labor cost to capital for the railroads was but 23 per cent. of that for manufacture, while the labor charge of the railroads per dollar of net returns was but 78 per cent. of that for manufacture. The labor of the railroads, however, is applied through machinery to a far greater degree than the labor of either manufactures or agriculture, the horse-power of the machinery of the railroads exceeding the horse-power of the machinery of manufactures and agriculture combined. It is, moreover, disclosed by the first of these comparative statements that the capital of manufactures received a net return of 107 points higher, or 243 per cent. greater, than that of the railroads. That is, it required to produce one dollar of net returns, \$6.62 of capital in the case of manufactures, \$9.44 in the case of agriculture, while it requires \$22.40 of capital in the case of the railroads.

AVERAGE SALARY-WAGE PER WORKER

	1905	1900
Manufactures	\$539	\$477
Railroads	607	567

TOTAL SALARY-WAGE PER EACH \$1,000 OF EXPENDITURE

	1905	1900
Manufactures	\$245	\$245
Railroads	572	568

TOTAL SALARY-WAGE PER \$1,000 NET RETURNS

	1905	1900
Manufactures	\$1,730	\$1,430
Railroads	1,362	1,223

The average salary-wage paid by the railroads was 12.6 greater than the average paid by the manufacturers. Notwithstanding this, manufactures paid 27 per cent. more salary-wage to produce \$1,000 net returns than the railroads. The salary-wage required to produce \$1,000 in net returns increased in five years 21 per cent.

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for manufactures and 11 per cent. for the railroads. That the high average salary-wage for the railroads is not caused by the heavy salaries of the administrative officers is shown by the fact that of the \$839,944,680 paid in 1905 by the railroads in salaries and wages, but \$15,155,278, or 1.8 per cent. went to the general officers. In the aggregate, the high salaries of the presidents are insignificant.

In comparison with the salaries paid the executive officers of the great industrial corporations of this day, the salaries of the railroad presidents are no longer extraordinary. It is conspicuous and significant that of the total expenditure of manufactures but 24 per cent. was for salary-wage, while of the total expenditure of the railroads 57 per cent. was for salary-wage.

The tables that are given next cast further light upon the relation of labor to each of the three branches of industry.

NUMBER OF WORKERS PER \$100,000 OF CAPITAL

	1905	1900
Manufactures	48	58
Railroads	10	9
Agriculture	36	45

That is, for each \$100,000 of capital, manufactures give employment to 380 per cent. more workers than the railroads, agriculture to 260 per cent. more.

NUMBER OF WORKERS PER \$100,000 NET RETURNS

	1905	1900
Manufactures	320	291
Railroads	224	215
Agriculture	370	489

That is, to produce \$100,000 of net returns, manufactures require 43 per cent. more workers than the railroads, and agriculture 65 per cent. more. Not only is the ratio of labor charge to capital less in the case of the railroads, but the number of workers per given amount of capital is vastly less. Although their work-

ers receive a higher average wage, a given amount of net returns is produced by the railroads with 70 per cent. of the number of workers required in manufactures, and 60 per cent. of the number required in agriculture.

The comparisons brought out by the preceding tables and the deductions therefrom show that while the administration of the railroads is far more economical than that of either manufactures or agriculture, the returns to capital are far less. This would indicate that the prices for the product of the railroads—that is the rates for transportation—are relatively lower than the prices for the products of manufacture and for the products of agriculture. This deduction is borne out by figures which also are obtained from publications of the United States Government.

Bulletin No. 65 of the Bureau of Labor, issued July, 1906, contains the results of an investigation into the wages and hours of labor in the manufacturing industries from 1890 to 1905, and of an investigation of the retail prices of food from 1890 to 1905. It states:

"The average wages per hour in 1905 were 18.9 per cent. higher than the average for the ten-year period from 1890 to 1899, inclusive. The average earnings per week were 14 per cent. higher, and the average hours of labor per week were 4.1 per cent. lower."

The same report says:

"The average prices of wheat, bread, butter, cheese, chickens, cornmeal, eggs, fresh fish, salt fish, milk, mutton and veal were higher in 1905 than in any other year of the sixteen-year period. The advance in bacon since 1896 has been 43.5 per cent.; the advance in Irish potatoes, 43.1 per cent.; the advance in eggs, 41.8 per cent.; the advance in dry or pickled pork, 31.9 per cent.; the advance in fresh pork, 30 per cent.; the advance in flour, 29.3 per cent.; the advance in cornmeal, 28.6 per cent. The advance in food, . . . according to its consumption in the family of the workingman, has been . . . 12.4 per cent., when compared with the average for the ten-year period 1890 to 1899."

Bulletin No. 69 of the Bureau of Labor, issued March, 1907, contains a record of wholesale prices of all com-

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modities from 1890. Taking the average wholesale price from 1890 to 1899 as 100 per cent., this record shows that wholesale prices increased as follows for 1905: farm products, 24.2 per cent.; food, etc., 8.7 per cent.; cloths and clothing, 12 per cent.; fuel and lighting, 28.8 per cent.; metals and implements, 22.5 per cent.; lumber and building materials, 27.7 per cent.; drugs and chemicals, 9.1 per cent.; miscellaneous, 12.8 per cent.; all commodities, 15.9 per cent.

Turning to the reports of the Interstate Commerce Commission we find that the average rate per ton per mile for 1890 was .941 cents—that is, nine hundred and forty-one one-thousandths of a cent; for 1900, .729 cents, and for 1905, .766 cents. Although the average rate per ton per mile for 1905 increased one-half of one per cent. over the average rate for 1900, the average rate for 1905 was but 91.2 per cent. of the average for the period from 1890 to 1899. That is, the average for 1905 was 8.8 per cent. lower than the average for the ten-year period.

CHAPTER XXIV

THE PROGRESSIVE ACHIEVEMENT OF THE RAILROADS

ANOTHER viewpoint from which to judge the heightening efficiency of the railroads of this country is afforded by a comparison for different periods of the various phases of their status and of their performance.

The principal factors through which the record of a railroad is brought to test, are:

(1) *The operating revenues*, which depend on the rates and the volume of traffic. Traffic is measured by ton miles, the unit being one ton of freight carried one mile; and by passenger miles, the unit being one passenger carried one mile. The sum of ton miles and passenger miles may, for the purposes of this presentation, be considered as the number of traffic units, although the two units differ in many respects.

(2) *The operating expenses*, which depend upon the facilities for operation, modified, however, by the volume of traffic and the peculiar requirements of particular traffic. Facilities are measured by miles of line, miles of track, number and tractive power of locomotives, number and capacity of freight cars, and number of employees of the various grades. Efficiency of operation is measured, other things being equal, by the ratio between the units of operation and the units of traffic; and, also, other things being equal, by the ratio between the gross earnings and the expense of operation. Units of operation are freight-train miles and passenger-train miles. The greater the ratio of tons to freight-train miles and the greater the ratio of passengers to passenger-train miles, the greater, other things equal, is the efficiency of operation. The lower the ratio of operating expense to gross earnings, other things equal, the greater is the efficiency of operation.

(3) *The operating income*, what is left of the operating revenues after the operating expenses and taxes have been paid. This remainder, plus the income from sources other than operating, constitutes the fund from which interest on funded debt and the dividends are payable, and from which contribution is made to the surplus.

(4) *The capitalization*, the amount upon which the bondholders and stockholders expect returns.

The relation borne by these various factors one to another, in the progressive performance of the railroads of this country, is shown by the following tables of percentages. As publication of collected statistics of the railroads of this country did not begin until a number of years after the close of the Civil War, and as the comprehensive presentations of the present day were attained only by gradual development, no one of these tables is based on information for any part of the period prior to 1871, and for many of the headings information is obtainable only for more recent years. Data for the years prior to 1889 has been compiled from Poor's Manual; for 1889 and subsequent years, from the statistics of the Interstate Commerce Commission.

During the decade from 1875 to 1885, the comparative increases in the different phases of railroad activity were as follows:

FACILITIES

	Increase (per cent.)
Miles of line	72.38
Locomotives	67.09
Freight cars	113.85
Passenger cars	23.32

FINANCE

Capitalization	77.61
Gross earnings	53.57
Net earnings	45.27
Operating expenses	58.42
Interest and dividends	57.93

This decade of rapid extension of the railroads immediately followed the uniting of small roads, serving a local traffic, into through lines. These through lines

were extended in advance of traffic, and new railroads were built into undeveloped regions. With the extension of the through lines was inaugurated the competition for long-distance traffic. Rate wars and rebates were at their height during the early years of the decade; then, owing to the steadying effect of the traffic associations, dividends increased until the volume of traffic fell with the minor depression of 1884. Of the increase in capitalization, about two-thirds is accounted for by the cash value of new line and new equipment, leaving about one-third, or about \$1,200,000,000, to be accounted for by buildings and other structures, franchises, and other assets, and the natural increase in the value of the properties in general with whatever there may have been of "water."

The ratios of increase from 1885 to 1895 are as follows:

FACILITIES

	Increase (per cent.)
Miles of line	41.45
Miles of track	47.51
Locomotives	38.46
Freight cars	47.34
Passenger cars	91.51

TRAFFIC

Ton miles	73.39
Passenger miles	33.44
Traffic units	66.00

FINANCES

Capitalization	21.34
Gross earnings	39.19
Net earnings	29.74
Operating expenses	44.25
Interest and dividends	27.42

That during this decade there was more of intensive than of extensive growth is shown by the fact that the percentage of new line was little more than half as great as during the previous decade, and was six per cent. less than the ratio of increase of miles of track.

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Miles of line, miles of track, supply of locomotives, and freight cars, all increased in practically double the ratio of the increase in capitalization. It was toward the close of this decade that new and powerful locomotives and the new and enlarged freight cars came into service, the increase in power per locomotive and in capacity per freight car making the actual increase in equipment far greater than that indicated by the increase in number. There was a marked increase in the number of passenger cars. The cost of additional track and equipment acquired during this decade exceeded the increase in capitalization, a fact which indicates that the cost was met in great measure from the earnings. The low ratio of increase indicates a hardening-down of capitalization caused by this placing of earnings back into the properties, and also by the scaling down through receiverships and reorganizations following the panic of 1893. The earnings for the decade as a whole did not gain in proportion to the increase in facilities. The last year of the decade, however, was one of severe industrial depression, gross and net earnings each falling about twelve per cent. below the amounts of 1893.

The ratios of increase from 1895 to 1905 are as follows:

FACILITIES	
	Increase (per cent.)
Miles of line	20.72
Miles of track	29.29
Locomotives	35.46
Freight cars	44.76
Passenger cars	22.96

TRAFFIC	
Ton miles	118.78
Passenger miles	95.26
Traffic units	115.84

FINANCES	
Capitalization	17.34
Gross earnings	93.65
Net earnings	98.45
Operating expenses	91.62
Interest and dividends	62.40

This decade also exhibits a greater proportion of intensive than of extensive growth, miles of track, supply of locomotives and freight cars, all increasing in far greater ratio than miles of line. The extraordinary increase in the number of passenger cars during the preceding decade explains the low ratio of increase in this decade. The cost of the additions to facilities again exceeds the increase in capitalization. Indeed, the proportion of the earnings of the American railroads that was being turned back into the properties excited such apprehension in foreign countries that the English investors sent over an expert to examine into this disposition of the earnings to ascertain if there were justification for it. He reported that the maintenance of the railroads and their development to meet the extraordinary increase of traffic that began with 1898 made imperative the expenditure of vast sums upon improvements and extensions. These expenditures for improvements out of earnings tended still further to solidify the capitalization. This naturally elicited complaints from the stockholders whose dividends were not augmented to an extent at all commensurate with the increases in traffic or in earnings.

The pressure for lower rates, the steady increase in taxes of all kinds, the rapidly increasing wages and the mounting prices of all material used by the railroads, forced great economies in methods of operation. These were made possible largely by the powerful locomotives and the capacious freight cars. The traffic units carried per dollar of capitalization, which had increased 38 per cent. from 1885 to 1895, increased 91 per cent. from 1895 to 1905. The number of traffic units carried per mile of track increased 13 per cent. from 1885 to 1895, and 66 per cent. from 1895 to 1905. The number of traffic units carried per locomotive increased 21 per cent. from 1885 to 1895, and 59 per cent. from 1895 to 1905. The number of traffic units carried per employee increased 22.59 per cent. from 1895 to 1905. This greater performance per unit of plant is also reflected in the ratio

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of the capitalization to the earnings. In 1885 it took \$10.15 of capitalization to produce one dollar of gross earnings; in 1895, \$8.84; in 1905, but \$5.36. The capitalization per unit of traffic was 13.4 cents in 1885, 9.7 cents in 1895, and but 5.3 in 1905. This result was attained notwithstanding that the average rate per ton per mile in 20 years had decreased 27.5 per cent.

The progressive efficiency of the American railroads, the progressive increase, both relative and absolute, in their contribution to the activity of the nation, are shown by the fact that the rate of increase in traffic carried was persistently greater than the rate of increase in capitalization or in earnings, notwithstanding the decreasing charge for transportation. These results are summarized in the following tabulation:

	1875 to 1885	1885 to 1895	1895 to 1905
Traffic units: increase (per cent.)..	66.00	115.84
Capitalization: increase (per cent.)..	77.61	21.34	17.34
Gross earnings: increase (per cent.)	53.57	39.19	93.65
Net earnings: increase (per cent.)..	45.27	29.74	98.45
Return to capital: increase (per cent.)	27.42	62.40
Rate per ton per mile: decrease (per cent.)	20.00	8.70

In the vociferous discussions of recent years so much has been said about the "fictitious" capitalization, the "over" capitalization, the "wind and water" in the capitalization of the railroads of the United States that the statement that the capitalization per mile has been gradually diminishing will doubtless be received with incredulity. Yet, that is the exact truth as shown by the statistics published by the Interstate Commerce Commission. In connection with the tables of capitalization published in its volume of statistics for 1905, the Commission states that in so far as the given amount of capitalization includes bonds or stocks of railroads which are owned by other railroads, the total represents a duplication. For example, the Northwestern Ohio Railway Company and the Pittsburg, Fort Wayne and Chicago Railway Company have each issued stock, which,

however, is owned principally by the Pennsylvania Company. The Pennsylvania Company has issued stock which is in large measure supported by these underlying issues of the Northwestern Ohio Railway Company and the Pittsburg, Fort Wayne and Chicago Railway Company. All the stock of the Pennsylvania Company is in turn owned by the Pennsylvania Railroad Company. It is, therefore, manifestly a duplication to include the stock issues of the subsidiary companies, as well as the total stock issue of the Pennsylvania Railroad Company. For another example, a majority of the stock of the Mobile and Ohio Railroad Company is owned by the Southern Railway Company, and is, therefore, covered by the stock of the latter company. It is, therefore, a duplication to list the entire stock of the Mobile and Ohio, as well as the entire stock of the Southern in a table giving the capitalization of the American railroads. This, however, notwithstanding the statement just referred to, is what the Commission does, making the average capitalization \$65,926 per mile for 1905. If from the total capitalization, as given in the tables of the Commission, we deduct the amounts of duplicated capitalization, as given in the statistics of the Commission, the average capitalization per mile for 1905 is found to be \$51,201* instead of over \$65,000. The average capitalization per mile for 1895 was \$52,676; for 1885, \$61,400; for 1875, \$59,593.

In 1875 there was very little ownership of the issues of one railroad company by another, and in 1885 the proportion was still small. This period of promotion and rapid extension doubtless knew more or less of

* The Special Report, No. 1, of the Interstate Commerce Commission on Intercompany Relationships of Railways, as of June 30, 1906, shows the net capitalization per mile to be \$36,173 of bonded debt, and \$21,877 of stock, a total of \$58,050. The compiler of this report states that: "It is probable that this net amount will be further reduced by a later and still more exhaustive investigation." Therefore, the calculations in this chapter, which was written prior to the publication of this report, and based upon the Interstate Commerce Commission's Statistics for 1905, have not been revised.

watered capitalization; that is, if the capitalization be considered at par. It was the custom, however, to issue large amounts of stock as a bonus to induce investors to place their money in bonds, and these issues of stock, dependent upon future development for whatever value they might have, sold far below par. The receiverships and reorganizations following 1893 reduced the average capitalization to \$52,676 in 1895. In the following decade the development of the "community of interests" led to very large purchases by this company and that company of the stocks and bonds of other companies, and one effect was that the average capitalization per mile, in 1905, was but \$51,201 at par. This low average is also in part accounted for by the extensions made out of earnings. In 1890, for every \$295 of gross earnings, one dollar was spent for permanent improvements. In 1895, the ratio was one dollar for improvements to every \$320 of gross earnings; in 1900 one dollar for every \$66; in 1905, one dollar for every \$63, and in 1906, one dollar for every \$49.

The relative decrease in capitalization, together with the tremendous increase in facilities and in improvements in operation, accounts for the fact that the ratio of the value of plant to a given amount of traffic decreased 28 per cent. from 1885 to 1895, and 25 per cent. from 1895 to 1905. In view of these facts, it seems impossible that there can at this time be any substantial amount of water in the capitalization of the railroads of the United States. Such over-capitalization as still exists is sporadic, and where water is still to be found, it is being forced out by the receiverships and the reorganizations that occur from time to time, just as the healthy body forces deleterious elements in the blood to the surface, and then ejects them from the system.

For the decade ending in 1905, the railroads carried 115.84 per cent. more traffic for 93.65 per cent. more money, the volume of traffic, therefore, increasing 22.19 per cent. more rapidly than the compensation for carry-

ing it. The employees, dealers in supplies, and others concerned in the operation, received 91.62 per cent. more compensation, while capital received but 62.4 per cent. greater returns. The disposition by the railroads of the United States of their income, dollar by dollar, for the year 1907 is indicated by the following exhibit of one of the trunk lines; for salaries and wages, 38.2 cents; to dealers for supplies, etc., 30.8 cents; for taxes, 3.1 cents; for interest and rentals, 17.8 cents; for dividends, 9.7 cents; for surplus .4 cents.

The facts brought to light by this scrutiny—that the railroads have moved a greatly increased traffic at lower rates, that they have vastly increased their facilities with a relatively decreasing capitalization, and yet that their expenses for operation have increased about 50 per cent. faster than the returns on their capital—demonstrate a progressive economy of administration from which their employees and the public have derived a far greater proportion of benefit than the bondholders and stockholders.

Another question of foremost importance is what has been the effect of this economy upon the railroads? Although the record of their performance, as disclosed by these statistics, is that of constantly increasing achievement, everyone knows that during the period from 1898 to 1907 the railroads of this country had to face increasing criticism and execration, and a seemingly universal hostility. Shippers were not supplied with as many cars as they desired, nor as promptly as they desired them. Shipments were subjected to long delays in transit, and there was one disastrous wreck after another. The popular antagonism found vent in laws enacted by Congress, and by many of the State legislatures—many of these laws increasingly impeding the operation of the already overburdened railroads. There were few to believe that the officers of the railroads, the men who in reality were accomplishing the magnificent results here placed in evidence, were doing the best that they could do. There were few to believe

even their simple statement that if any one would show them how to produce better results under the limitations that bound them, they would be only too willing to avail themselves of suggestions.

The truth is that the railroad employees, from general managers down to section men, were struggling with an ever-rising tide of traffic that threatened to overwhelm them. The figures tell the story. In ten years the traffic increased 115 per cent. This was double, or more than double, the increase in facilities and about seven times the increase in capitalization. Had it not been for the panic of 1893 the ton miles for the decade ending 1895 would have increased at least 100 per cent. They did increase 73.39 per cent., and for the decade ending 1905 they increased 118.78 per cent. Speaking broadly, the freight traffic of this country increases about 100 per cent. every ten years, and there is every likelihood that it will increase 100 per cent. or more in the next ten years, a period of depression being more than made up by a return of prosperity.

Twenty years ago the traffic units were eighty billions a year, and preparation for a one hundred per cent. increase meant provision for an additional eighty billions. Now the traffic units are over two hundred and fifty billions a year, and preparation for a one hundred per cent. increase means preparation for an additional two hundred and fifty billions. It is not likely that it will be possible during the next ten years to reduce the ratio of the value of plant to unit of traffic in any such proportion as during the last ten years. Freight cars cannot be built any higher without a change in the standard of overhead clearances throughout the country. They cannot be made any wider, for they will not pass on a double track. They cannot be made any longer, for they are now standardized in length to fit the loading and unloading facilities at elevators, warehouses and ore docks; and are as long as the curvatures on the leading railroads of the country will permit. Likewise the

power of the locomotives cannot be increased except through intensive improvements. Therefore, provision for a one hundred per cent. increase in traffic will more nearly approximate a one hundred per cent. increase in facilities than heretofore. There must be extensive purchases of real estate for enlargement of yards and terminals.

If provision for a one hundred per cent. increase of traffic were to mean an increase of one hundred per cent. in facilities, the existing railroad plant of the United States would have to be doubled within ten years. Let us assume, however, that the traffic increased by one hundred per cent. can be handled with facilities increased by eighty per cent. Taking the cost of main line track at \$30,000 per mile, other track at \$15,000 per mile, locomotives at \$15,000 each, freight cars at \$1,000 each, and passenger cars at \$5,000 each, it will be found that an eighty per cent. increase in the track and equipment of 1905 would cost over eight and one-half billion dollars. The requisite real estate would probably cost another half billion dollars, bringing the total expenditure necessary to provide for the traffic of the decade ending with 1915 to an average annual investment of nine hundred millions of dollars.

If this expenditure is made on capital account, the capitalization of the railroads of the United States will have to be increased to over twenty billion dollars. In 1885 the total return to the capitalization of the railroads was but 3.38 per cent., in 1895 but 3.55 per cent. In 1905, on the capitalization as given by the Interstate Commerce Commission, the return was 4.4 per cent.; on the net capitalization, as given in this chapter, it was 4.9 per cent. For that year, moreover, 62.84 per cent. of the total railway stock paid no dividends at all, and the average rate of dividends that were paid was less than six per cent. Of the total funded debt 78 per cent. reaped a return which averaged less than six per cent. The entire surplus of all of the railroads of the United States was less than one-tenth of the an-

nual expenditure that will be needed to keep them abreast of the traffic.

As shown in the previous chapter, the net return to the capital invested in manufactures averaged 15.1 per cent. for the year 1905, the net return to the capital invested in agriculture 9.8 per cent. for that year. Into these two branches of our national industry, particularly into the manufacturing and the allied mining industry, capital was unhesitatingly poured. When, however, the overburdened condition of the railroads, as a whole, had become apparent to everyone, and they entered the market with propositions for hundreds of millions of dollars of new capital, the nation stood aghast at their temerity. When even the clogged and the congested Pennsylvania Railroad sought to parallel its facilities between Pittsburg and New York, voices were not lacking to criticise what was called its rashness. The truth is that the railroads did not begin to ask for new capital soon enough nor in amounts large enough. Had their requisitions begun with the resumption of business activity in 1898 and 1899, fewer mills and skyscrapers might, perhaps, have been built in the next half dozen years, but the facilities of the railroads might have been kept well ahead of the demand. When they did ask, what did they receive? Bond issues even of stable companies could be sold only at a discount, and in many cases only at a heavy discount.

It is a condition and not a theory that confronts the railroads. They must make ends meet, and they must provide for the future. Not only must they make returns on the capital in the existing plant, but they must demonstrate the possibility of making returns that will enlist capital in the doubling of that plant. This must be done, not merely that the investment of capital may be profitable, but that the transportation needs of the country may be met.

To whatever extent the waterways may be developed, they cannot supplant the railroads upon which the greater portion of the burden of transportation now

falls, and of necessity will continue to fall. In substantiation of this statement it is necessary only to reflect that, particularly in the busier Northern States, canals and rivers are frozen over throughout a considerable portion of the year. It is necessary only to look at the network of railroad lines on the map of any of the States of developed commerce, and to consider what would have to be done before waterways could even fractionally take their place. Holland would no longer be the typical land of dykes and ditches. How could canals supplant the service now rendered to mills and warehouses into which the tracks of the railroads penetrate?

CHAPTER XXV.

CONCLUSION

IN all of the web of condition and circumstance, out of which has developed the freight rate structure of the railroads of the United States, was not woven one thread of effective precedent. There was entire absence of that experience of the past which serves as a guide for the future. The concerted use of steam and rails revolutionized transportation, not only its physical mechanism, but its economic relations. The charges of the canal boat and the wagoner were no adequate criterion by which to fix the charges of the railroads. The manner in which they were used indicates that they were little more than a starting point from which to make a guess, it being necessary, of course, that the charges of the railroads be lower than those of the antecedent agencies, or that their service be better. Both of these desiderata were attained within a generation, and that attainment firmly established the railroads as the dominant instrument in this country for the conveyance of passengers and freight.

Another salient feature is that the introduction of the railroads in the United States was not into a developed and settled nation. Their services and their rates had to be progressively adapted to the needs of a population that was irregularly extending over the vast areas of the national domain, forming communities at points of natural advantage whose location was not in the least determined by intervals of distance.

The beginnings of the railroads, moreover, were when the processes of industry were being revolutionized by the use of steam in no less degree than the methods of transportation. Coincident with the growth of population was the increasing use of a greater variety of the

materials of nature and a continual multiplying of the kinds of products wrought from these materials. There has been a continual multiplying of the sources whence raw material is obtained, of the places where it is manufactured, and as the population has extended far and wide a ramifying of the channels of distribution.

It must also be borne in mind that with but few exceptions the railroads of the United States have not been State owned institutions. There were, especially in the earlier years, subscriptions by States, cities and towns, and there were grants by the national government of large tracts of land; but in the main the capital by which the railroads have been built has been subscribed by individuals, as has been private capital in other enterprises. In the earlier years the first aim was often to have a railroad, and capital was expended in its construction with little or no regard to the likelihood of profit from its operation. In later periods the return on capital has been the foremost consideration, and as a rule money has not been invested unless there has been prospect of return. That is, as an avenue for investment the railroads have had to compete with other avenues for investment; their success in the eyes of the investor has meant pecuniary success. At all times the railroads of the United States have been dependent upon their earnings for their operation and their maintenance.

Judgment passed upon the freight rate structures of the railroads of the United States must be posited on these premises. It must be considered how completely they have been adjusted to meet the requirements of an irregularly extending and rapidly growing population, of the rapidly extending and developing processes of industry and commerce, to what extent they have met the requirements of investors for return on their capital.

That period prior to the Civil War, when each railroad served only the local needs of the territory which it traversed, has left no record that the rates of the railroads were not satisfactory to their patrons. The inauguration of through service in the period immediately

succeeding the War, the rapid extension of the railroads, the growing competition for both short distance and long distance traffic, the increasing effect of the rates of the waterways upon the rates of the railroads, the building of the railroads in advance of traffic, led to that buffeting of the waves through which it was necessary for both railroads and shippers to gain the experience that has enabled the steering of an even course, and to problems whose solution has been slowly working out. Widespread and radical differences of opinion between the railroads and their patrons, and mutual misunderstandings equally widespread, culminated in the report made by the Cullom Committee to the United States Senate in 1886. That report listed eighteen causes of complaint against the railroad system. Inasmuch as these complaints then expressed have been the basis of nearly if not quite all of the accusations bearing directly or indirectly against the transportation charge that have been made since that time, probably no more clear understanding can be gained of the present status than by contrasting the conditions exhibited by that list of complaints formulated twenty-three years ago with the conditions that exist to-day. This list of complaints, although embodied in a previous chapter, is repeated here for this purpose.

THE COMPLAINTS OF 1886

1. That local rates are unreasonably high, compared with through rates.

THE CONDITION AT PRESENT

1. Local rates are still of varying levels, and are usually higher per ton per mile than through rates, but complaints upon these specific bases are nowadays seldom made. It has been recognized by both the Interstate Commerce Commission and the Courts that the lower through rate per ton per mile is not a criterion by which to measure the reasonableness of the higher local rate.

COMPLAINTS OF 1886
(Continued)

2. That both local and through rates are unreasonably high at non-competing points, either from the absence of competition or in consequence of pooling agreements that restrict its operation.

3. That rates are established without apparent regard to the actual cost of the service performed, and are based largely on "What the traffic will bear."

4. That unjustifiable discriminations are constantly made between individuals in the rates charged for like service under similar circumstances

5. That improper discriminations are made between articles of freight and branches of business of a like character, and between different quantities of the same class of freight.

6. That unreasonable discriminations are made between localities similarly situated.

CONDITION AT PRESENT
(Continued)

2. Complaints as to unreasonably high rates at non-competing points are now infrequent. Effective mechanism exists for the correction of any such rates that may be found.

3. That "What the traffic will bear," or as it is more accurately expressed, "Not what the traffic will not bear," is the only equitable basis for the adjustment of rates is the opinion of the highest authorities whether in the field of economic theory or in that of railroad practice.

4. These discriminations were prohibited under, but in practice not abolished by, the original Interstate Commerce Law. Since the enactment of the Elkins law and the Hepburn law, and the enforcement of their provisions, they have admittedly ceased to exist.

5. While, with constantly changing commercial conditions, instances now and then occur of rates not being properly adjusted on similar articles, and for similar branches of business, no general complaint of this nature exists at this time. It is generally conceded that rates on small shipments should in general be higher than rates on carload lots.

6. The adjustment of rates between competing localities in a manner that will satisfy all of the contending interests remains one of the most perplexing problems with which the railroads and the Commission have to deal. Many

COMPLAINTS OF 1886 (Continued)

7. That the effect of the prevailing policy of railroad management is by an elaborate system of special rates, rebates, drawbacks, and concessions to foster monopoly, to enrich favored shippers, and to prevent free competition in many lines of trade in which the item of transportation is an important factor.

8. That such favoritism and secrecy introduce an element of uncertainty into legitimate business that greatly retards the development of our industries and commerce.

CONDITION AT PRESENT (Continued)

cases of discrimination that seem unjust to a surface view have been found not to be unreasonable by the Interstate Commerce Commission; other cases seemingly unreasonable and condemned by it have been upheld as reasonable by the Supreme Court of the United States after broad consideration of the effect upon the entire population.

7. The statement set against complaint Number 4 applies to this complaint, Number 7. Until recently it would have held good in regard to the divisions of through rates allowed "industrial roads" and "tap lines," and by the payment of "elevation and transfer charges." But these practices have been condemned, and are now in one or another stage of elimination. Their abolition will leave, perhaps, the only fields for secret concessions to be in the abuse of the "reconsignment" and "milling in transit" privileges, and the possibilities afforded by so-called "reciprocal demurrage."

8. That these practices hampered individual shippers in competition with their shrewder and more aggressive rivals is unquestionable, but it is not demonstrated that they retarded the industry and commerce of the country, which expanded with great rapidity during the entire period of rebates and discriminations. The shrewder and the more aggressive still transact the greater volume of business, although now without concessions from the railroads.

COMPLAINTS OF 1886
(Continued)

9. That secret cutting of rates and the sudden fluctuations that constantly take place are demoralizing to all business except that of a purely speculative character, and frequently occasion great injustice and heavy losses.

10. That in the absence of national and uniform legislation, the railroads are able by various devices to avoid their responsibility as carriers, especially on shipments over more than one road, or from one State to another, and that shippers find great difficulty in recovering damages for the loss of property or for injury thereto.

11. That railroads refuse to be bound by their own contracts, and arbitrarily collect large sums in the shape of overcharges in addition to the rates agreed upon at the time of shipment.

12. That railroads often refuse to recognize or be responsible for the acts of dishonest agents acting under their authority.

13. That the common law fails to afford a remedy for such grievances, and that in cases of dispute the shipper is compelled to submit to the decision of the railroad manager or pool commissioner, or run the risk of incurring further losses by greater discriminations.

CONDITION AT PRESENT
(Continued)

9. Legislation against the secret cutting of rates and their rapid fluctuation is as drastic as against rebates and secret discriminations.

10. There is not now any lack of national legislation, but the enactments of the various States are sadly lacking in uniformity. Competition, especially since the abolition of secret concessions, has forced the railroads to give more care to the settlement of claims for loss and damage in order that they may retain the business of the claimant. Indeed, fictitious claims—which are obviously equivalent to rebates—have been paid for this purpose.

11 and 12. During the two years' survey that has resulted in the preparation of this book no such complaints have come to the writer's attention.

13. Certainly no such accusation is made at this time of abundant Federal legislation and superabundant State legislation.

COMPLAINTS OF 1886 (Continued)

14. That the difference in the classifications in use in various parts of the country, and sometimes for shipments over the same roads in different directions are a fruitful source of misunderstanding, and are often made a means of extortion.

15. That a privileged class is created by the granting of passes, and that the cost of the passenger service is largely increased by the extent of this abuse.

16. That the capitalization and bonded indebtedness of the roads largely exceed the actual cost of their construction or their present value, and that unreasonable rates are charged in the effort to pay dividends on watered stock and interest on bonds improperly issued.

17. That railroad corporations have improperly engaged in lines of business entirely distinct from that of transportation, and that undue advantages have been afforded to business enterprises in which railroad officials were interested.

CONDITION AT PRESENT (Continued)

14. Instead of the hundreds of different classifications in effect at the time this complaint was drafted, there are now but three promulgated by the railroads, which are earnestly endeavoring to merge these into one that will apply throughout the country. The various classifications and modified classifications issued by separate States are a large factor in the confusion that still exists.

15. The granting of passes has been prohibited by the Congress, and by various States, except for certain specified charitable purposes, and to the employees of railroad companies.

16. That the first clause of this complaint holds good as to the entire railroad system of the United States is vigorously contested, not only by officers of the railroads, but by eminent economists. In any event, rates are not and cannot be determined by or based upon capitalization. Overcapitalization and financial manipulation, where they exist, may have the effect of impairing the physical condition and the service of a railroad. They injure the investor, but do not affect the rates of the shipper.

17. That clause of the Hepburn law forbidding railroad companies to carry on a commercial business in commodities owned and transported by them has been declared unconstitutional by the Circuit Court of the United States for the Eastern District of Pennsylvania, as being an invasion of property rights. The ques-

Railroad Freight Rates

COMPLAINTS OF 1886 (Continued)

18. That the management of the railroad business is extravagant and wasteful, and that a needless tax is imposed upon the shipping and traveling public by the unnecessary expenditure of large sums in the maintenance of a costly force of agents engaged in a reckless strife for competitive business.

CONDITION AT PRESENT (Continued)

tion is now before the Supreme Court of the United States for final decision. The Interstate Commerce Commission has full power to prevent any abuses in the transportation charge that might arise from the continuance of the railroads in dealing in such commodities.

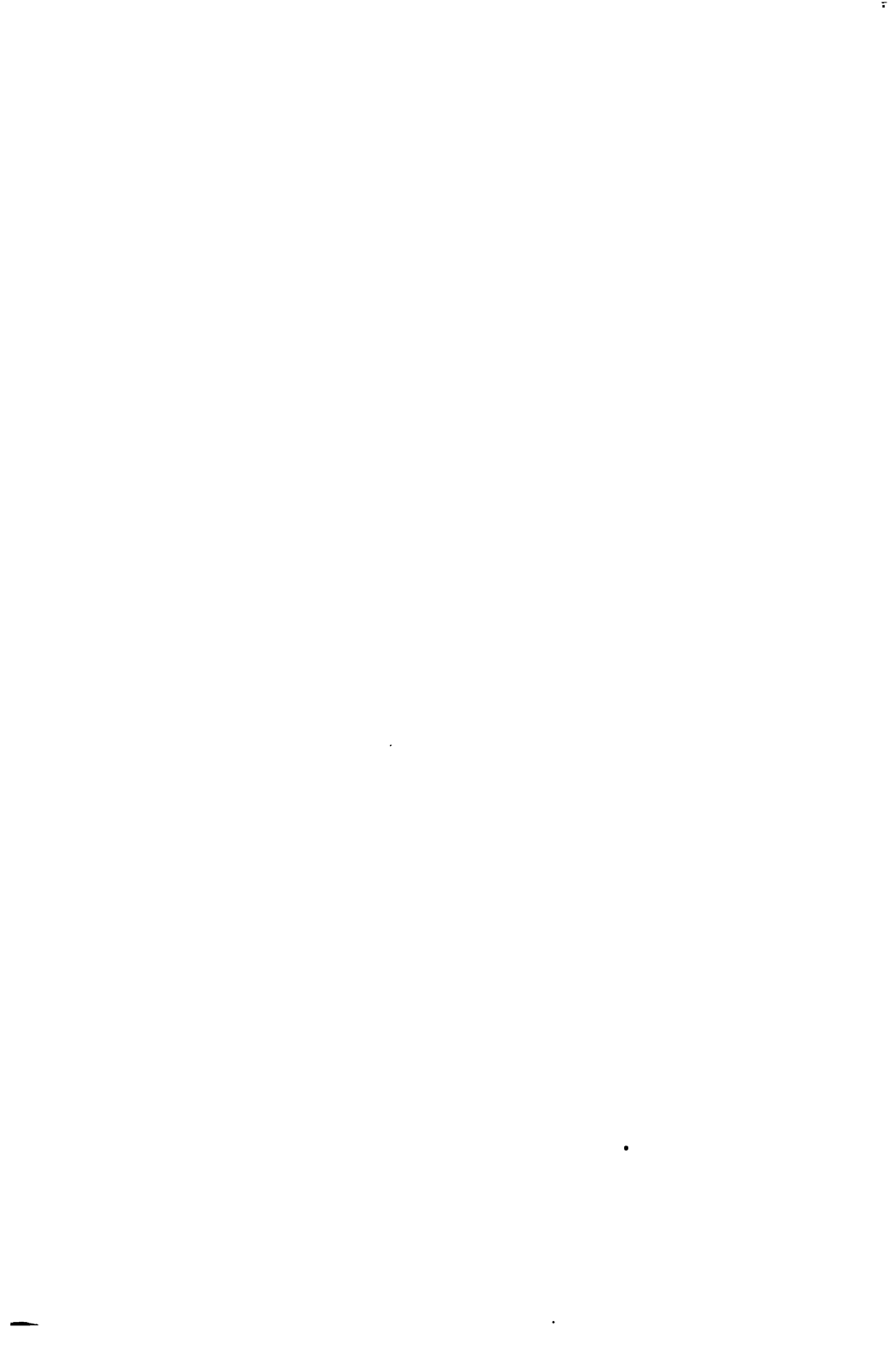
18. Statistics based upon returns published by the Interstate Commerce Commission, the Census Bureau, and the Department of Agriculture, show that while the average wage paid by the railroads is greater than that paid in the agricultural industry or the manufacturing industry, the railroads produce a far greater return measured per employee and have far fewer employees in proportion to capital; but that notwithstanding this their net return averages less than one-half of that in agriculture, and is far less than one-third of that obtained in the manufacturing industry. In the eyes of the investor they are, therefore, at a disadvantage in comparison with either of these principal fields of activity.

A serious abuse not specified in the list of complaints formulated by the Cullom Committee is that economic waste, to which attention has been called of late years, caused by the carrying of traffic by long and circuitous routes in competition with direct routes. This is being reduced to a minimum by the abolition of rebates, and other secret concessions, it standing to reason that a shipper having any regard for the time his wares spend in transit, or for their liability to injury from repeated

handling, will not send a consignment over a long and roundabout route when he can send it over a shorter and more direct route at the same rate.

It is apparent from the foregoing comparison that since the report made by the Cullom Committee, in 1886, the conduct of transportation by the railroads of this country has undergone a radical and comprehensive reformation, brought about in part by the working of economic law, and in part by legislation. It is essential that following this revolution there should be a period of calm during which the railroads and the shippers may have the opportunity to adjust themselves to the new conditions and solve the new problems.

Because of the irregular extension of the population of the United States, the varying geographical and economic conditions that have led to the unsymmetrical development of industry and commerce, and, therefore, to necessarily irregular and unsymmetrical channels of traffic, it follows that the development of the freight rate structure necessarily has been likewise irregular and unsymmetrical. That this development has been in accord with the needs of industry and commerce would seem beyond question, and that the moulding to which it is continually subjected is adapting it the more closely to those needs has abundant demonstration. Any radical or abrupt modification of the existing rate structure, or any attempt to substitute for it another scheme of rates of apparent mathematical symmetry, could not but react injuriously, not only upon the railroads, but upon industry and commerce, and, therefore, militate against the national welfare.



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